

636527

Report Number: 214-TRC-03-002

Safety Compliance Testing For FMVSS 214

Side Impact Protection

**Fuji Heavy Industries LTD
2003 Subaru Baja Pickup Truck**

NHTSA Number: C35500

Transportation Research Center Inc.

10820 State Route 347

P. O. Box B-67

East Liberty, OH 43319



March 3, 2003

Final Report

**U. S. Department Of Transportation
National Highway Traffic Safety Administration
Enforcement**

Office of Vehicle Safety Compliance

400 Seventh Street, S. W.

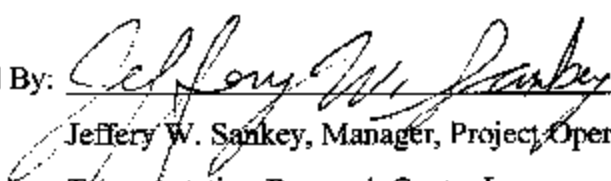
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16. Abstract This 48/24 km/h 90° Impact (Moving Deformable Barrier) Compliance Test was conducted on the subject vehicle, a 2003 Subaru Baja Pickup Truck in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP-214D-06 to determine FMVSS 214 Side Impact Protection compliance. This test was conducted by Transportation Research Center Inc. in East Liberty, Ohio, on February 18, 2003. The impact velocity of the Moving Deformable Barrier (MDB) was 53.0 km/h, and the ambient temperature at the struck (passenger side) side of the target vehicle at the time of impact was 21° C. The target vehicle's post-test maximum crush was 213 mm at Level 2. The test or target vehicle's performance is given below: <table border="1"> <thead> <tr> <th></th> <th>Front SID</th> <th></th> <th>Rear SID</th> <th></th> </tr> </thead> <tbody> <tr> <td>Right Upper Rib Acceleration:</td> <td>31.5</td> <td>g's</td> <td>41.7</td> <td>g's</td> </tr> <tr> <td>Right Lower Rib Acceleration:</td> <td>29.3</td> <td>g's</td> <td>42.1</td> <td>g's</td> </tr> <tr> <td>Lower Spine Acceleration:</td> <td>40.2</td> <td>g's</td> <td>40.8</td> <td>g's</td> </tr> <tr> <td>Thoracic Trauma Index, (TTI):</td> <td>35.8</td> <td>g's</td> <td>41.4</td> <td>g's</td> </tr> <tr> <td>Pelvis Acceleration (PEV):</td> <td>36.1</td> <td>g's</td> <td>34.7</td> <td>g's</td> </tr> </tbody> </table> The two doors on the struck side of the vehicle did not separate from the body at the hinges or latches and the opposite doors did not open during side impact event.				Front SID		Rear SID		Right Upper Rib Acceleration:	31.5	g's	41.7	g's	Right Lower Rib Acceleration:	29.3	g's	42.1	g's	Lower Spine Acceleration:	40.2	g's	40.8	g's	Thoracic Trauma Index, (TTI):	35.8	g's	41.4	g's	Pelvis Acceleration (PEV):	36.1	g's	34.7	g's
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17. Key Words Compliance Testing Side Impact Protection FMVSS 214 Side Impact Dummy (SID)	18. Distribution Statement Copies of this report are available from: NHTSA Technical Information Services (TIS) Room 5108 (NPO-230), 400 Seventh Street, S.W. Washington, DC 20590 Telephone No. (202) 366-4946 Attn: Robert Hornicle																															
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Section 1

Purpose and Test Procedure

This side impact test is part of the FMVSS 214 Side Impact Protection Compliance Test Program sponsored by the National Highway Traffic Safety Administration (NHTSA) under Contract No. DTNH22-02-D-11114. The purpose of this test was to evaluate side impact protection in a 2003 Subaru Baja Pickup Truck. The test was conducted in accordance with the Office of Vehicle Safety Compliance's Laboratory Test Procedure (TP-214D-06, dated July 2001).

Section 2

Summary of Side Impact Test

A 2003 Subaru Baja Pickup Truck was impacted on the passenger side by a Moving Deformable Barrier (MDB) which was moving forward in a 27° crabbed position to the monorail at a velocity of 53.0 km/h (32.9 mph). The target vehicle was stationary and was positioned at an angle of 63° to the line of forward motion. The side impact test was conducted by Transportation Research Center Inc. in East Liberty, Ohio on February 18, 2003. Pre-test and post-test photographs of the test vehicle, the moving deformable barrier (MDB), and the side impact dummies (SIDs) are included in Appendix A.

Two restrained Side Impact Dummies (SIDs) were placed in the right front (Pos. #2) and right rear (Pos. #3) designated seating positions according to the instructions specified in the OVSC Side Impact Laboratory Test Procedure (TP-214D-06, dated July 2001). Both SIDs were certified prior to this test. The side impact test was documented by one real-time camera and 9 high-speed cameras. Camera locations and other pertinent camera information are included in this report.

The SIDs were instrumented with the following accelerometers:

1. Right Upper Rib (RUR) uniaxial and redundant accelerometer (Y-direction)
2. Right Lower Rib (RLR) uniaxial and redundant accelerometer (Y-direction)
3. Lower Thoracic Spine (T₁₂) uniaxial and redundant accelerometer (Y-direction)
4. Pelvic (PEV) section uniaxial and redundant accelerometer (Y-direction)

A summary of the side impact dummy (SID) configuration and verification test data can be found in Appendix C. A total of 42 channels of data were recorded. Appendix B contains the vehicle, MDB, and dummy response data traces.

The following table summarizes the results of the test.

Injury Criteria	Front SID	Rear SID
T ₁₁ (g)	35.8	41.4
PEV (g)	36.1	34.7

Data Acquisition Explanations

The right front door on centerline Y-axis acceleration data channel, RFCYG1, lost data after 15 milliseconds. This affected the velocity and displacement calculations.

The right front door mid rear Y-axis acceleration data channel, RFMYG1, lost data after 14 milliseconds. This affected the velocity and displacement calculations.

The right front door upper centerline Y-axis acceleration data channel, RFUYG1, lost data after 15 milliseconds. This affected the velocity and displacement calculations.

The right rear door mid rear Y-axis acceleration data channel, RRMYG1, lost data after 33 milliseconds. This affected the velocity and displacement calculations.

The right lower A-post Y-axis acceleration data channel, RLAYG1, lost data after 6 milliseconds. This affected the velocity calculation.

The right middle A-post Y-axis acceleration data channel, RMAYG1, lost data after 8 milliseconds. This affected the velocity calculation.

Section 3

Summary of Test Results

Data Sheet 1

General Test Vehicle Parameter Data

Test Vehicle Information:

Vehicle Year/Make/Model: 2003 Subaru Baja
Vehicle Body Style/Color: Pickup Truck/Yellow/Silver VIN: 4S4BT61C236104658
Vehicle NHTSA No.: C35500 Build Date: 10/02
Engine Data: 4 Cylinders; CID; 2.5 Liters; cc
Placement: - Longitudinal; or - Lateral; or - Horizontal
Transmission: 5 Speed; X Manual; - Automatic; - Overdrive
Final Drive: - RWD; - FWD; - Four-Wheel Drive
Odometer Reading: 13 mi
Options: X A/C; X Power steering; X Pwr. brakes; X Power windows

Data From Vehicle's Tire Placard:

Tire Pressure (at capacity)* 210 kPa Front; 200 kPa Rear
Recommended Tire Size: P225/60R16
Tires on Test Vehicle: P225/60R16 Manufacturer: Bridgestone, Potenza

Vehicle Capacity Data:

Number of Occupants: 2 Front; 2 Rear; 3rd seat; 4 Total
Type of Front Seats: X Bucket; - Bench; - Split bench
Type of Front Seat Back: - Fixed; X Adjustable with X Lever or - Knob
Vehicle Max. Capacity Loading = 363 kg (A)
No. of Occupants x 68.04 kg. = 272.2 kg (B)
Vehicle Cargo Capacity (A-B) = 90.8 kg

Test Vehicle Delivered Weight With Maximum Fluids:

Left Front	=	<u>430.5</u> kg	Left Rear	=	<u>383.0</u> kg
Right Front	=	<u>419.0</u> kg	Right Rear	=	<u>374.5</u> kg
Total Front	=	<u>849.5</u> kg	Total Rear	=	<u>757.5</u> kg
Front % of Total Weight	=	<u>52.9</u> %	Rear % of Total Weight	=	<u>47.1</u> %
Total Weight	=	<u>1607.0</u> kg			

* Tire pressure used in test.

Data Sheet 1 (continued)

General Test Vehicle Parameter Data

Calculation Of Vehicle's Target Test Weight:

Total Test Vehicle Delivered Weight With Max. Fluids = 1607.0 kg (A)
Maximum Cargo Carrying Capacity of Test Vehicle = 90.8 kg (B)
Weight of Instrumented Side Impact Dummies (1 or 2 X 84.0 kg) = 168.0 kg (C)
Test Vehicle Target Weight: = 1866.8 kg (A+B+C)

Fully Loaded Test Vehicle (UDW + 2 SID(s) + Cargo):

Left Front	=	<u>443.0</u> kg	Left Rear	=	<u>461.5</u> kg
Right Front	=	<u>471.5</u> kg	Right Rear	=	<u>489.0</u> kg
Total Front	=	<u>914.5</u> kg	Total Rear	=	<u>950.5</u> kg
Front % of Total Weight	=	<u>49.0</u> %	Rear % of Total Weight	=	<u>51.0</u> %
Total Weight	=	<u>1865.0</u> kg			

As Tested Weight of Test Vehicle (2 SID(s) + Cargo + Equipment & Instrumentation):

Left Front	=	<u>455.8</u> kg	Left Rear	=	<u>456.0</u> kg
Right Front	=	<u>453.2</u> kg	Right Rear	=	<u>493.4</u> kg
Total Front	=	<u>909.0</u> kg	Total Rear	=	<u>949.4</u> kg
Front % of Total Weight	=	<u>48.9</u> %	Rear % of Total Weight	=	<u>51.1</u> %
Total Weight	=	<u>1858.4</u> kg			

Test Vehicle Attitude (all dimensions in millimeters):

As Delivered	Fully Loaded	Ready For Test
Right Front <u>750</u>	Right Front <u>732</u>	Right Front <u>723</u>
Left Front <u>754</u>	Left Front <u>745</u>	Left Front <u>737</u>
Right Rear <u>745</u>	Right Rear <u>710</u>	Right Rear <u>702</u>
Left Rear <u>744</u>	Left Rear <u>715</u>	Left Rear <u>701</u>

Test Vehicle Wheelbase: 2650 mm

C.G. = 1354 mm rearward of front wheel centerline

Total Vehicle Length:

Right Side = 4615 mm
Left Side = 4615 mm
Centerline = 4901 mm

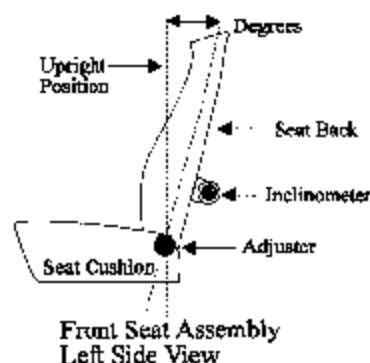
Data Sheet 1 (continued)

General Test Vehicle Parameter Data

Vehicle: 2003 Subaru Baja Pickup Truck

NHTSA No.: C35500

Nominal Design Riding Position for adjustable driver and passenger seat backs. Please describe how to position the inclinometer to measure the seat back angle. Include description of the location of the adjustment latch detent, if applicable.



Front Seat Cushion Placement: Mid of power travel

Total Length of Fore/Aft Adjustment Travel: 226 mm

Total Number of Adjustment Positions or Detents: -----

Front Seat Back Adjustment Position: The back was adjusted to the 4th notch from full upright

Seat Back Torso Angle: 2.0 degrees at headrest

Second Position Seat Placement: Fixed

Total Length Of Fore/Aft Adjustment Travel: ---- mm

Seat Back Adjustment Position: ----

Adjustable Steering Column Position: Fixed

Window Positions:

Right Front: Closed

Right Rear: Closed

Left Front: Open

Left Rear: Open

Note: Windows will be in closed position on struck side of test vehicle and in open position on opposite side.

Amount of Stoddard Solvent In Fuel Tank:

64.0 liters (fuel tank usable capacity)

59.8 liters used in test (92% - 94% of fuel tank usable capacity)

Location of Impact Point On Test Vehicle Side To Be Impacted:

Wheelbase = 2650 millimeters

Intended impact point is 385 millimeters rearward of front axle centerline
(which is 940 millimeters forward of the wheelbase midpoint)

Actual Impact Point is 376 millimeters rearward of front axle centerline

Data Sheet 2

Test Vehicle Summary of Results

Vehicle Year/Make/Model: 2003/Subaru/Baja

Body Style: Pickup Truck

VIN: 4S4BT61C236104658

NHTSA No.: C35500

Build Date: 10/02

Test Date: 02/18/03

Vehicle Overall Length = 4901 mm

Overall Width = 1610 mm

Vehicle Test Weight (Pre-Test):

Left Front = 455.8 kg Left Rear = 456.0 kg

Right Front = 453.2 kg Right Rear = 493.4 kg

Total Front = 909.0 kg Total Rear = 949.4 kg

Total Weight = 1858.4 kg

Wheelbase = 2650 mm

Longitudinal C.G. From Center Of Front Axle = 1354 mm

Impact Angle With Respect To Impactor = 90 degrees

Impact Point:

Actual Impact Point is 9 mm left of nominal impact ref. line (Lateral)

Actual Impact Point is 8 mm up from nominal impact point (Vertical)

Maximum Exterior Static Crush:

1. Level 1 (340 mm above ground) = 147 mm

2. Level 2 (559 mm above ground) = 213 mm

3. Level 3 (685 mm above ground) = 208 mm

4. Level 4 (960 mm above ground) = 143 mm

5. Level 5 (1444 mm above ground) = 56 mm

Maximum Post-Test Intrusion = 213 mm

Occupants:

Front Passenger

Rear Passenger

Dummy Identification 66

65

Restraints Used Seat belt

Seat belt

Instrumentation:

Number of Vehicle Data Channels: = 26

Number of Cameras: Onboard = 3 Offboard = 7 Total = 10

Data Sheet 3

Moving Deformable Barrier(MDB) Summary

MDB Face Manufacturer And Serial Number:

Plascore, 049A0602-2, 058B0502

Position Of Impactor (MDB) On Monorail:

Crabbed 333°

MDB Specifications:

Overall Width of Framework Carriage	=	<u>1251</u>	mm
Overall Length of MDB (Incl. honeycomb impact face)	=	<u>4014</u>	mm
Wheelbase of Framework Carriage	=	<u>2591</u>	mm
Track of Framework Carriage (Front & Rear)	=	<u>1881</u>	mm
C.G. Location Rearward of Front Axle	=	<u>1115.0</u>	mm

MDB Weight:

Left Front	=	<u>362.2</u>	kg	Left Rear	=	<u>324.6</u>	kg
Right Front	=	<u>412.0</u>	kg	Right Rear	=	<u>260.2</u>	kg
Total Front	=	<u>774.2</u>	kg	Total Rear	=	<u>584.8</u>	kg
Total MDB Weight	=	<u>1359.0</u>	kg				
Impact Angle (MDB C/L to Target Vehicle C/L) = <u>90</u> degrees							
Impact Speed = <u>53.0</u> km/h							

Maximum Static Crush of Honeycomb Impact Face:

1. Row A at Center of Bumper Level	=	<u>169</u>	millimeters
2. Row B at Top of Bumper Level	=	<u>113</u>	millimeters
3. Row C at Mid Level	=	<u>112</u>	millimeters
4. Row D at Top of Stack Level	=	<u>113</u>	millimeters

Instrumentation:

Number of MDB Data Channels - 5

Data Sheet 4

Post-Test Observations

Vehicle: 2003 Subaru Baja Pickup Truck

NHTSA No.: C35500

Visible Dummy Contact Points:

	<u>Right Front SID</u>	<u>Right Rear SID</u>
Head:	<u>Window, head restraint</u>	<u>C-pillar, head restraint</u>
Upper Torso:	<u>Seat belt</u>	<u>Seat belt</u>
Lower Torso:	<u>Seat belt</u>	<u>Seat belt</u>
Left Knee:	<u>Right knee</u>	<u>Right knee</u>
Right Knee:	<u>Door</u>	<u>Left knee</u>

Door Opening:

	<u>Left Side</u>	<u>Right Side</u>
Front:	<u>Latched and operational</u>	<u>Jammed shut and latched</u>
Rear:	<u>Latched and operational</u>	<u>Jammed shut and latched</u>

MDB Distance From Target Impact Point:

Vertical: 8 mm up from target

Horizontal: 9 mm left from target

Arm Rest Locations:

Front: 255 mm below the bottom of the window

Rear: 254 mm below the bottom of the window

Seat Movement:

Front: No track movement, seat back bent inboard

Rear: None

Glazing Damage:

Windshield: Broken on passenger's side

Window: Both front and rear right side windows broke.

Pillar Separation: No

Sill Separation: No

Other Notable Impact Effects:

None

Section 4

Occupant and Vehicle Information

Data Sheet 5

SID Instrumentation Data

Vehicle: 2003 Subaru Baja Pickup Truck

NHTSA No.: C35500

TEST NUMBER: 030218

RIGHT FRONT PASSENGER DUMMY SERIAL NUMBER: 066
POSITIVE
DIRECTION
NEGATIVE
DIRECTION

RIGHT UPPER RIB ACCELERATION

LATERAL (P)	4.1 g	@ 99.4 ms	31.5 g	@ 37.5 ms
LATERAL (R)	4.5 g	@ 99.4 ms	31.7 g	@ 37.5 ms

RIGHT LOWER RIB ACCELERATION

LATERAL (P)	5.7 g	@ 98.7 ms	29.3 g	@ 38.8 ms
LATERAL (R)	6.3 g	@ 98.7 ms	29.5 g	@ 38.8 ms
TTI d (P)	35.8			
TTI d (R)	35.8			

LOWER SPINE ACCELERATION

LATERAL (P)	6.6 g	@ 96.3 ms	40.2 g	@ 42.5 ms
LATERAL (R)	6.9 g	@ 96.3 ms	39.9 g	@ 42.5 ms

PELVIS ACCELERATION

LATERAL (P)	8.5 g	@ 67.5 ms	36.1 g	@ 41.2 ms
LATERAL (R)	8.5 g	@ 67.5 ms	36.0 g	@ 41.2 ms

Data Sheet 5 (Continued)

SID Instrumentation Data

Vehicle: 2003 Subaru Baja Pickup Truck

NHTSA No.: C35500

TEST NUMBER: 030218

RIGHT REAR PASSENGER DUMMY SERIAL NUMBER: 065
POSITIVE
DIRECTION
NEGATIVE
DIRECTION

RIGHT UPPER RIB ACCELERATION

LATERAL (P)	4.4 g	@ 268.7 ms	41.7 g	@ 52.5 ms
LATERAL (R)	4.7 g	@ 130.0 ms	40.7 g	@ 52.5 ms

RIGHT LOWER RIB ACCELERATION

LATERAL (P)	4.3 g	@ 121.2 ms	42.1 g	@ 52.5 ms
LATERAL (R)	5.4 g	@ 121.2 ms	41.5 g	@ 52.5 ms
TTI d (P)	41.4			
TTI d (R)	40.9			

LOWER SPINE ACCELERATION

LATERAL (P)	8.2 g	@ 83.7 ms	40.8 g	@ 63.1 ms
LATERAL (R)	8.3 g	@ 83.7 ms	40.4 g	@ 63.1 ms

PELVIS ACCELERATION

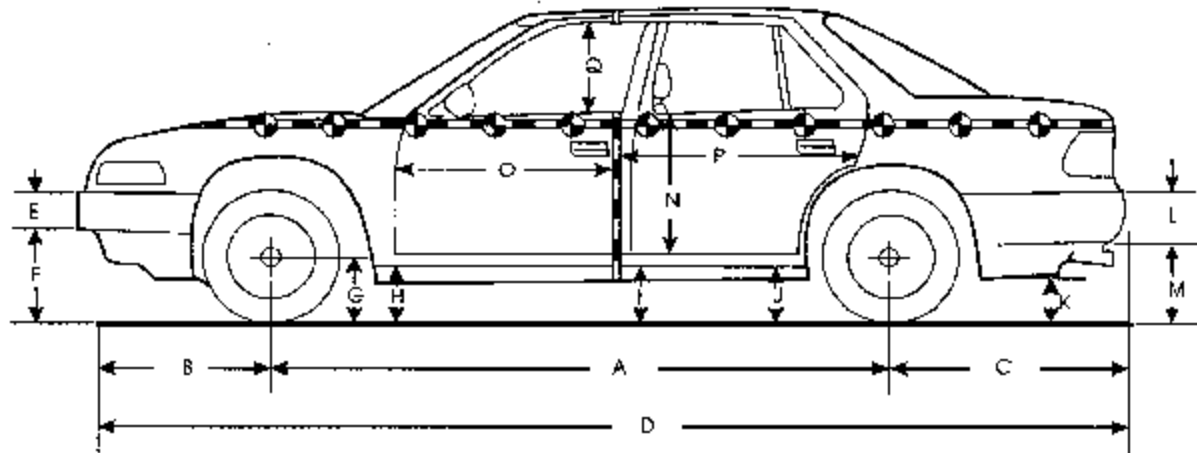
LATERAL (P)	3.9 g	@ 231.9 ms	34.7 g	@ 54.4 ms
LATERAL (R)	4.0 g	@ 231.9 ms	34.5 g	@ 54.4 ms

Data Sheet 6

Vehicle Pre-Test And Post-Test Measurements

Vehicle: 2003 Subaru Baja Pickup Truck

NHTSA No.: C35500



Left Side View

Note: All dimensions are in millimeters with tolerance of ± 3 mm

	Pre-Test (as delivered)	Pre-Test (as tested)	Post-Test (as tested)	Change
A	2650	2650	2630	20
B	978	978	978	0
C	1284	1284	1284	0
D	4901	4901	4901	0
E	320	320	320	0
F	270	245	280	-35
G	320	320	320	0
H	353	239	235	4
I	386	239	280	-41
J1	257	226	240	-14
J2	403	234	261	-27
K	343	301	307	-6
L	184	184	184	0
M	395	368	360	8
N	675	675	680	-5
O	70	70	117	-47
P	2115	2115	2076	39
Q	348	348	348	0
R	4615	4615	4614	1
S	4615	4615	4614	1
T	120	120	120	0

D = Length at centerline
T = Width at B-pillar

E&L = Bumper Thickness
J1 = To Pinch Weld

R = Right Side Length
J2 = To Sill

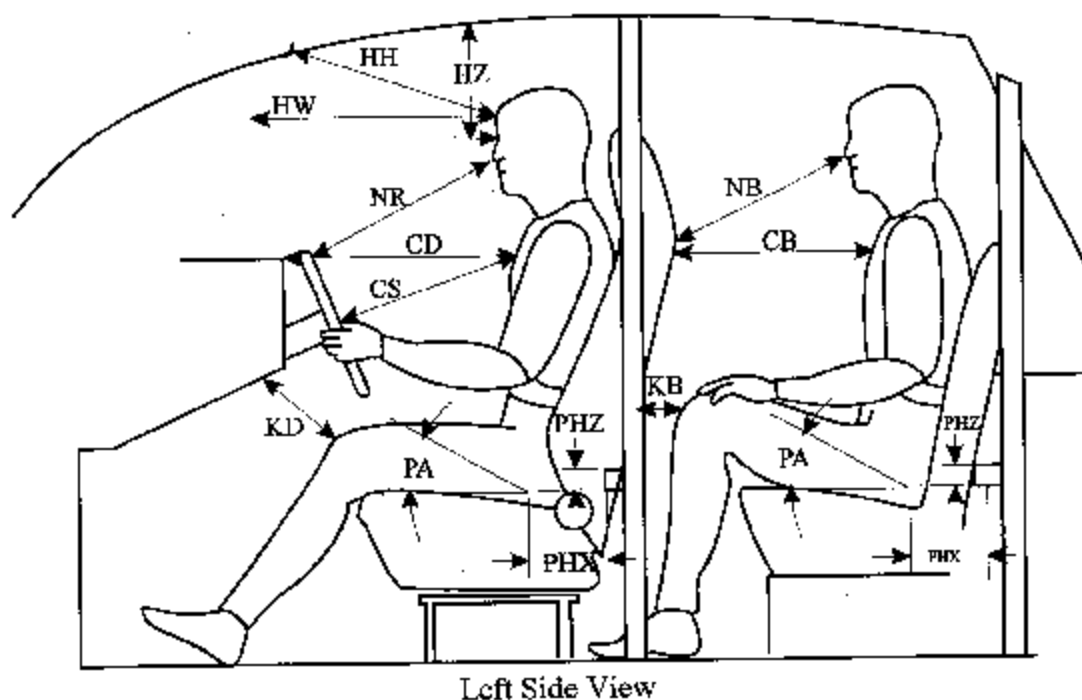
S = Left Side Length

Data Sheet 7

SJD Longitudinal Clearance Dimensions

Vehicle: 2003 Subaru Baja Pickup Truck

NHTSA No.: C35500



Note: All measurements are in millimeters with tolerance of ± 3 mm

Measurement	Right Front Pass. SID # 066	Right Rear Pass. SID # 065
HH	358	N/A
HW	523	N/A
HZ	145	155
NR/NB	N/A	598
CD/CB	504	513
CS	N/A	N/A
KDL(KDA°)/KBL(KBA°)	132/(12°)	115/(13.7°)
KDR(KDA°)/KBR(KBA°)	140/(19.4°)	110/(13.7°)
PA°	24°	23.1°
PHX	188	252
PHZ	105	255

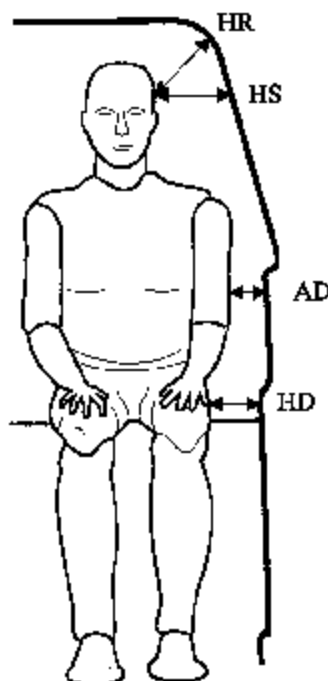
Note: 2-door vehicle shown. Rear dummy PHX and PHZ measurements for 4-door vehicle would use the C-post striker as a reference point.

Data Sheet 8

SID Lateral Clearance Dimensions

Vehicle: 2003 Subaru Baja Pickup Truck

NHTSA No.: C35500



Note: All measurements are in millimeters with tolerance of ± 3 mm

Measurement	Right Front Pass. SID # 066	Right Rear Pass. SID # 065
HR	185	240
HS	287	328
AD*	Lower: 108 Upper: 99	Lower: 158 Upper: 141
HD	126	166

* Lower measurement is taken laterally at center of the lower rib accelerometer height from the SID arm segment to the closest part of the vehicle side.

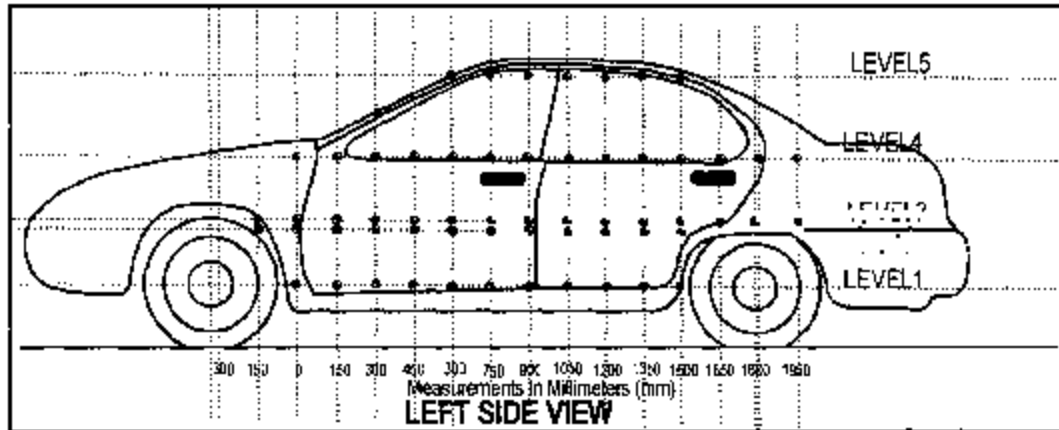
Upper measurement is taken laterally at center of the upper rib accelerometer height from the SID arm segment to the closest part of the vehicle side.

Data Sheet 9

Vehicle Side Measurements

Vehicle: 2003 Subaru Baja Pickup Truck

NHTSA No.: C35500



Level 5 - Window Top

Level 4 - Window Sill

Level 3 - Mid-Door

Level 2 - Occupant H-Point

Level 1 - Axle Centerline Height or Sill Top Height

Measurements Are Taken When The Vehicle Is In The "As Tested" Configuration.

Measurements along the vertical 750 mm line shown above:

Level 5 @ Window Top	=	<u>1444</u>	mm
Level 4 @ Window Sill	=	<u>960</u>	mm
Level 3 @ Mid Door	=	<u>685</u>	mm
Level 2 @ Occupant H-Point	=	<u>559</u>	mm
Level 1 @ Axle Centerline Height (or Sill Top Height)	=	<u>340</u>	mm

Data Sheet 10

Vehicle Exterior Crush Profiles - All Levels

Vehicle: 2003 Subaru Baja Pickup Truck

NHTSA No.: C35500

Location	Height	(mm) From Impact Point														
		-1200	-1050	-900	-750	-600	-450	-300	-150	0	150	300	450	600	750	
Level 1 Side Sill	Pre	---	733	708	---	---	---	---	---	660	675	679	682	682	683	
	Post ¹	---	733	713	---	---	---	---	---	699	746	765	778	794	802	
	Crush ¹	---	0	5	---	---	---	---	---	39	71	86	96	112	119	
Level 2 H-Point	Pre	---	711	685	640	---	---	---	---	642	651	643	641	640	638	
	Post ¹	---	729	705	685	---	---	---	---	702	731	773	790	811	833	
	Crush ¹	---	18	20	45	---	---	---	---	60	80	120	149	171	195	
Level 3 Mid-Door	Pre	---	---	703	657	---	---	---	618	639	650	648	643	642	640	
	Post ¹	---	---	687	665	---	---	---	656	683	722	751	771	788	800	
	Crush ¹	---	---	-16	8	---	---	---	38	44	72	103	128	146	160	
Level 4 Window Sill	Pre	---	---	798	780	763	750	737	728	718	712	706	700	694	685	
	Post	---	---	810	795	785	767	762	753	746	747	456	761	771	778	
	Crush	---	---	12	15	22	17	25	25	28	35	-250	61	77	93	
Level 5 Window Top	Pre	---	---	---	---	---	---	---	---	---	---	---	---	---	943	
	Post	---	---	---	---	---	---	---	---	---	---	---	---	---	974	
	Crush	---	---	---	---	---	---	---	---	---	---	---	---	---	31	

Data Sheet 10 (Continued)

Vehicle Exterior Crush Profiles - All Levels

Vehicle: 2003 Subaru Baja Pickup Truck

NHTSA No.: C355500

Location	Height	(mm) From Impact Point														
		900	1050	1200	1350	1500	1650	1800	1950	2100	2250	2400	2550	2700		
Level 1 Side Sill	Pre	683	682	683	684	683	680	675	---	---	---	---	---	688		
	Post ¹	813	824	830	812	794	773	753	---	---	---	---	---	705		
	Crush ¹	130	142	147	128	111	93	78	---	---	---	---	---	17		
Level 2 H-Point	Pre	630	628	645	633	633	633	633	---	---	---	---	---	654		
	Post ¹	843	828	815	813	823	826	808	---	---	---	---	---	674		
	Crush ¹	213	200	170	180	190	207	175	---	---	---	---	---	20		
Level 3 Mid-Door	Pre	639	638	640	643	643	640	634	626	---	---	---	637	647		
	Post ¹	810	811	821	837	851	845	807	683	---	---	---	660	667		
	Crush ¹	171	173	181	194	208	205	173	57	---	---	---	23	20		
Level 4 Window Sill	Pre	686	681	682	679	678	678	676	680	683	686	688	690	700		
	Post	785	794	820	821	821	817	782	751	723	720	720	712	720		
	Crush	99	113	138	142	143	139	106	71	40	34	32	22	20		
Level 5 Window Top	Pre	922	918	921	925	923	921	924	926	---	---	---	---	---		
	Post	961	966	977	980	976	972	967	966	---	---	---	---	---		
	Crush	39	48	56	55	53	51	43	40	---	---	---	---	---		

¹ Post-test measurements for Levels 1 between 0 and 1800 mm; and for Level 3 between -150 and 0 and 1650 and 1950 mm; were taken to the sheet metal since the plastic trim came off the vehicle during the impact. The plastic trim would add 2 mm to Level 1 and 10 mm to Level 2 if it had been in place.

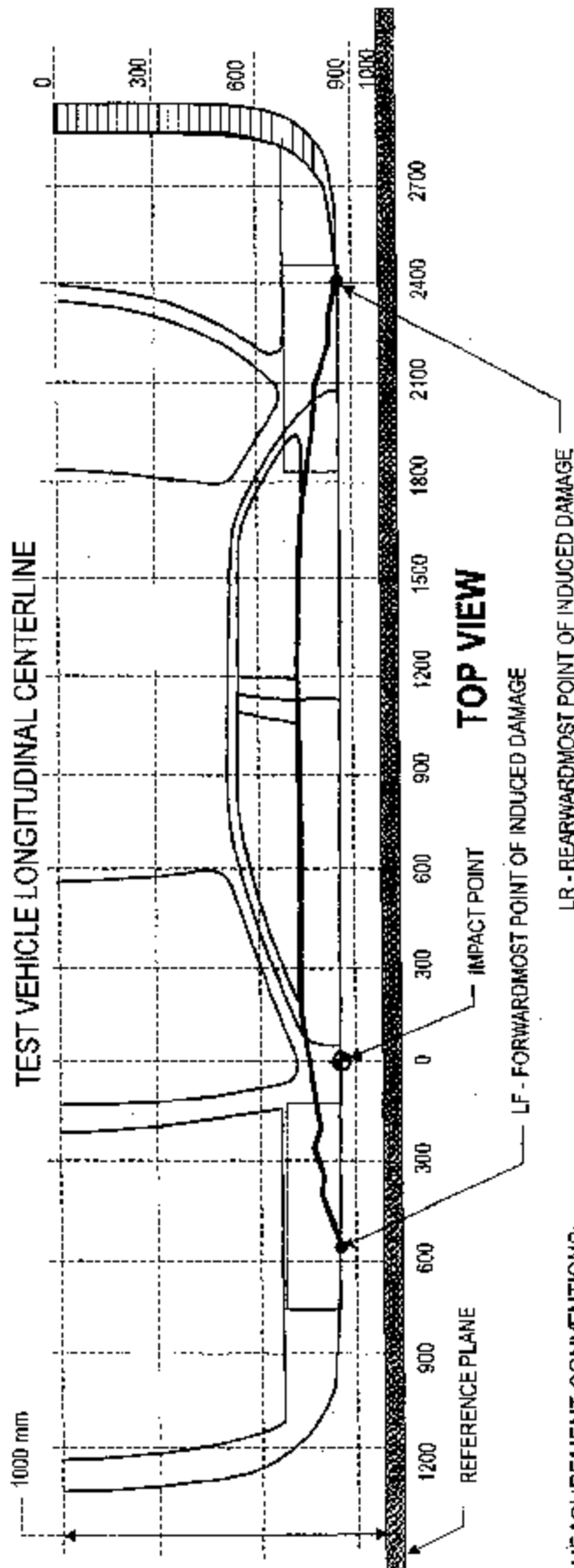
Data Sheet 11

Vehicle Damage Profile Distances

Vehicle: 2003 Subaru Baja Pickup Truck

NHTSA No.: C35500

NOTE: All measurements are in millimeters (mm) and should be accurate to plus or minus 3mm.



MEASUREMENT CONVENTIONS:

Forward of the impact point (towards front of vehicle) is considered negative (-)

Rearward of the impact point (towards rear end of vehicle) is considered positive (+)

DPD Measurements	Post-Test (mm)	Pre-Test (mm)	Static Crush (mm)
1 LF = -600 mm (Level 3)	785	763	22
2 -150 (Level 3)	753	728	25
3 300 (Level 3)	751	648	103
4 900 (Level 3)	810	639	171
5 1500 (Level 3)	851	634	208
6 LR = 2250 mm (Level 3)	720	686	34

Full length of induced damage was -555 mm to 2245 mm.

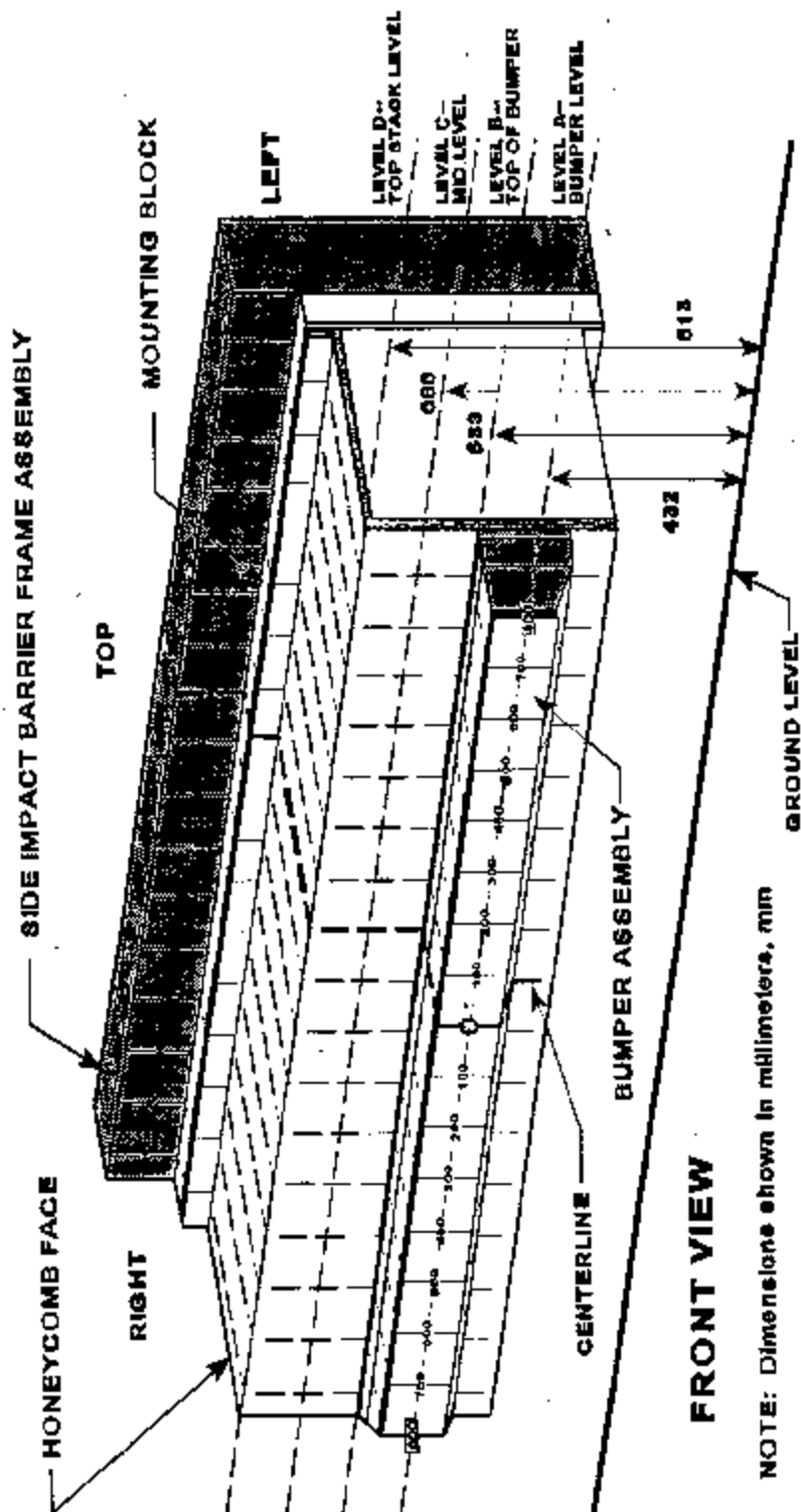
Data Sheet 12

Exterior Static Crush For Impactor Face

(Grid as looking at MDB from front)

NHTSA No.: C35500

Vehicle: 2003 Subaru Baja Pickup Truck



Data Sheet 12 (Continued)

Exterior Static Crush For Impactor Face

NHTSA No.: C35500

Vehicle: 2003 Subaru Baja Pickup Truck

		Distance Right of Center (mm)										Distance Left of Center (mm)							
		Height	800	700	600	500	400	300	200	100	0	100	200	300	400	500	600	700	800
Location	At CL																		
Top Stack Level - Level D	813	-113	-71	-57	-44	-33	-25	-19	-16	-14	-33	-38	-10	1	7	9	-3	-47	
Mid Level - Level C	686	-112	-82	-60	-43	-29	-21	-16	-13	-17	-24	-23	-17	-10	-10	-11	-22	-52	
Top Bumper Level - Level B	533	-111	-97	-80	-73	-65	-58	-53	-51	-55	-62	-71	-71	-74	-89	-98	-109	-113	
Mid Bumper Level - Level A	432	-158	-136	-115	-101	-95	-90	-86	-89	-96	-105	-113	-110	-113	-131	-155	-169	-168	

All measurements are in millimeters and have a tolerance of ± 3 mm.

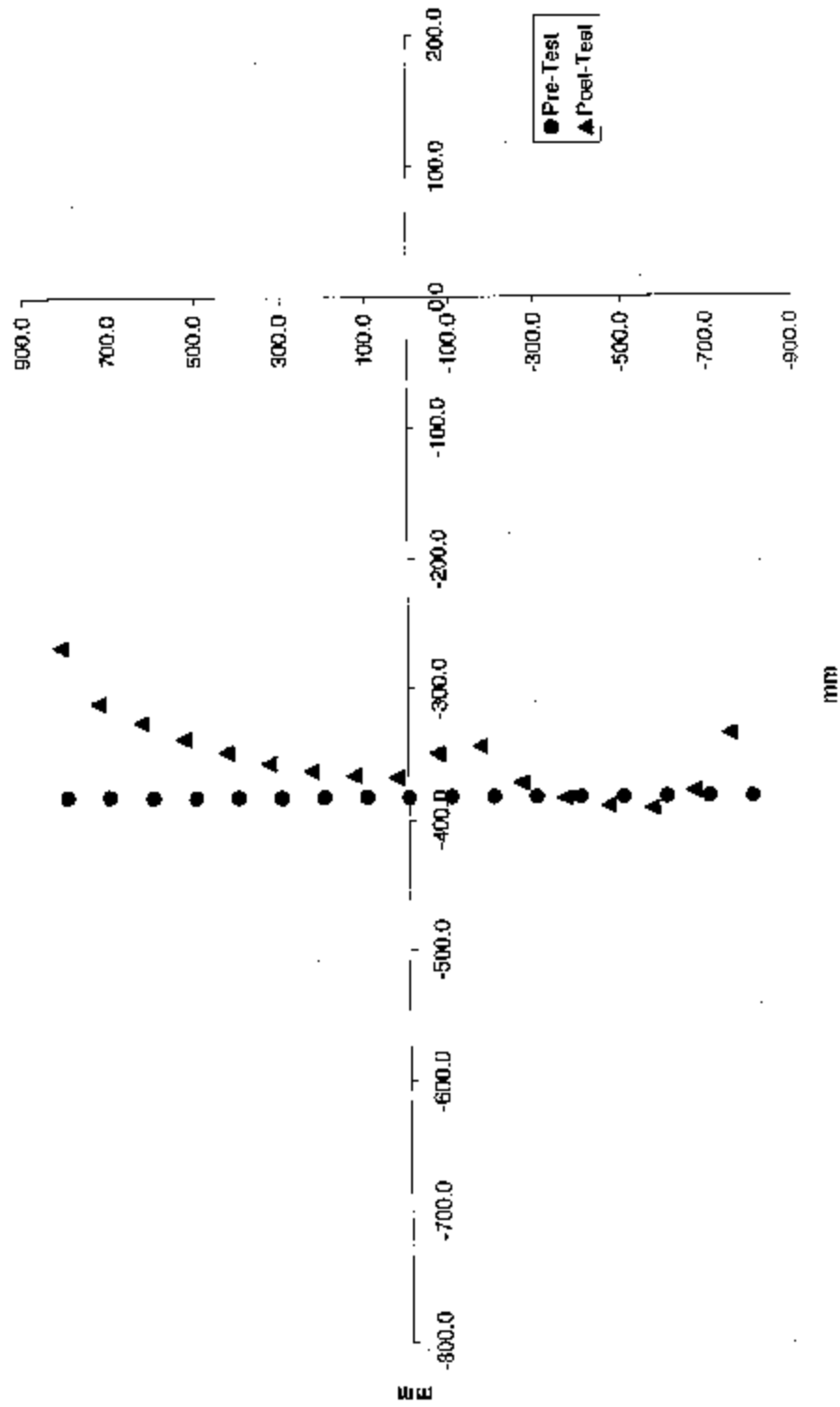
Data Sheet 12 (Continued)

Exterior Static Crush For Impactor Face

Vehicle: 2003 Subaru Baja Pickup Truck

NHTSA No.: C35500

Level D - Deformable Barrier Face Profile 1-17



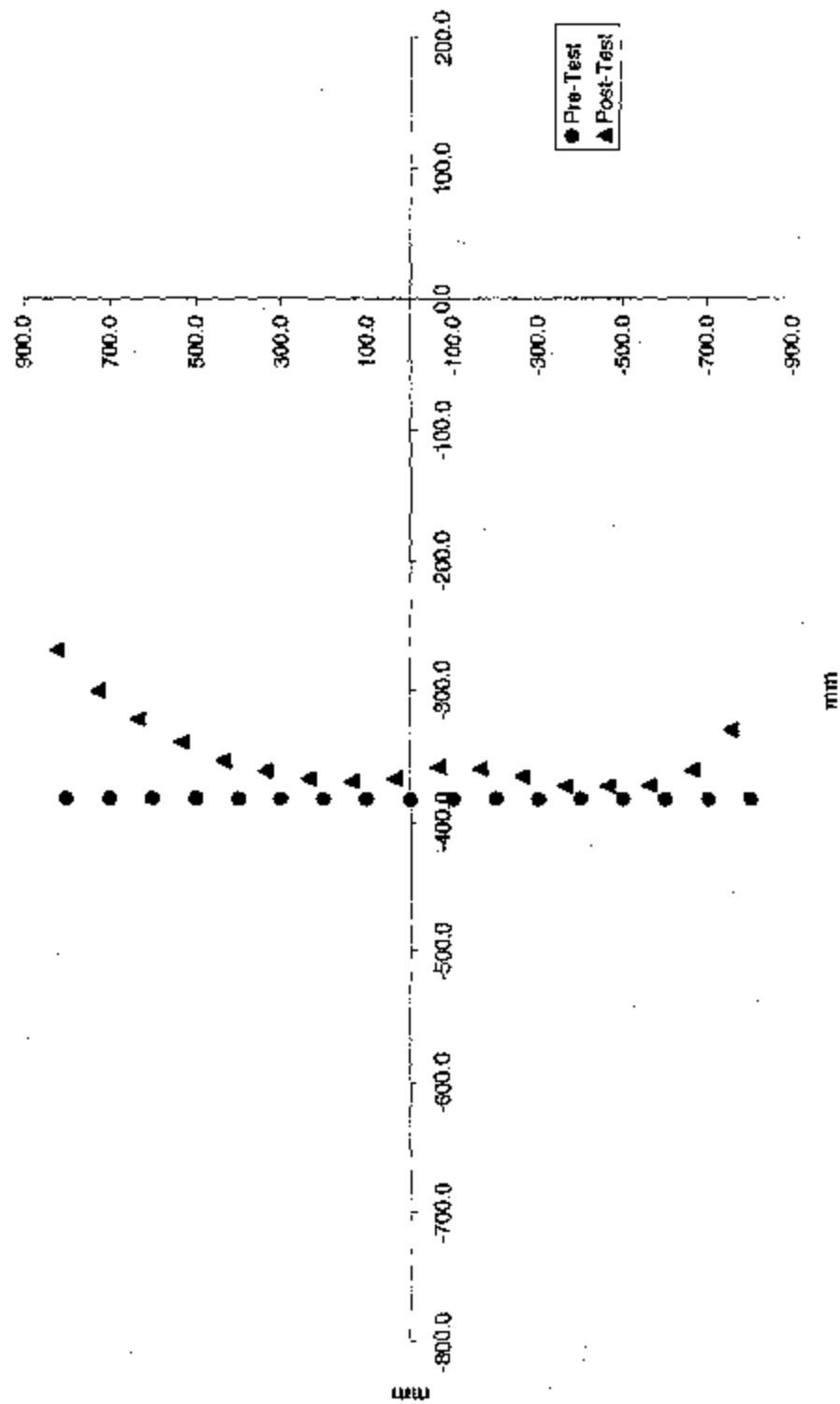
Data Sheet 12 (Continued)

Exterior Static Crush For Impactor Face

Vehicle: 2003 Subaru Baja Pickup Truck

NHTSA No.: C35500

Level C - Deformable Barrier Face Profile 18-34



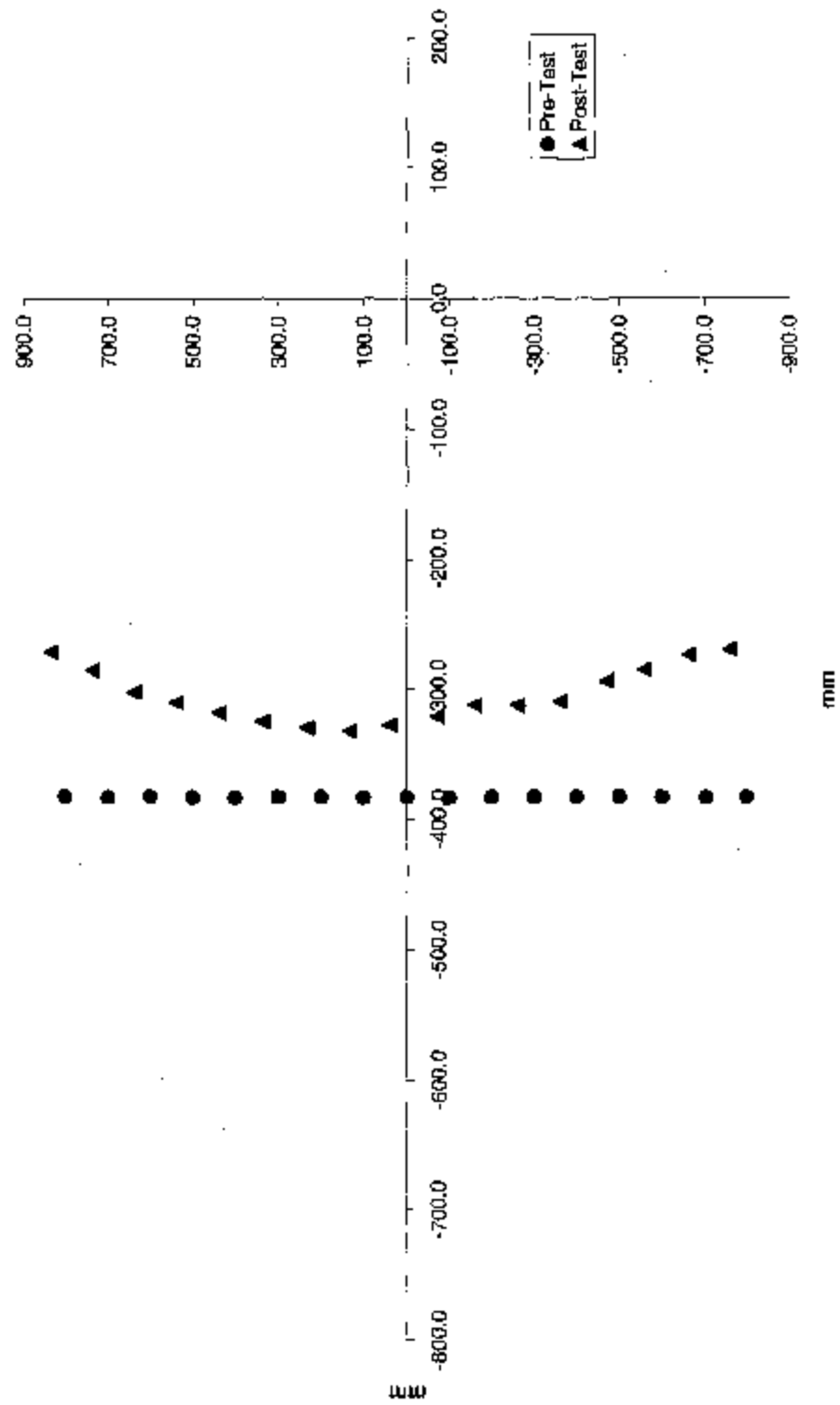
Data Sheet 12 (Continued)

Exterior Static Crush For Impactor Face

Vehicle: 2003 Subaru Baja Pickup Truck

NHTSA No.: C35500

Level B - Deformable Barrier Face Profile 35-51



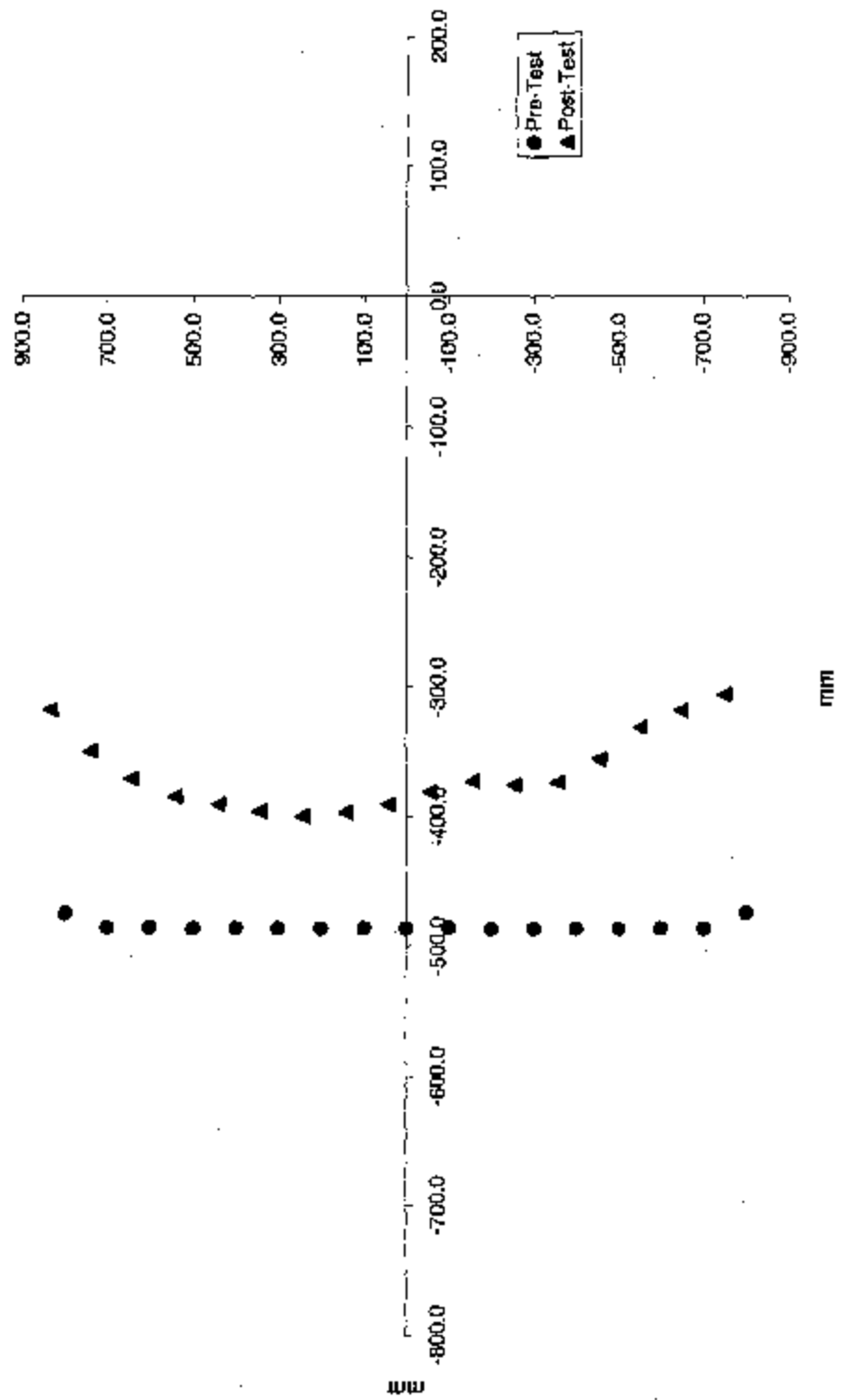
Data Sheet 12 (Continued)

Exterior Static Crush For Impactor Face

Vehicle: 2003 Subaru Baja Pickup Truck

NHTSA No.: C35500

Level A - Deformable Barrier Face Profile 52-88



Data Sheet 12 (Continued)

Exterior Static Crush For Impactor Face

Vehicle: 2003 Subaru Baja Pickup Truck

NHTSA No.: C35500

Deformable Barrier Face Profile

Level D - Top Stack

Pre-Test

Index	Xmm	Ymm	Zmm
1	-381	800	-44
2	-381	700	-44
3	-382	599	-45
4	-382	500	-45
5	-382	400	-46
6	-382	299	-46
7	-382	200	-47
8	-382	99	-47
9	-382	-2	-48
10	-382	-101	-48
11	-382	-202	-48
12	-382	-301	-48
13	-382	-401	-49
14	-382	-501	-50
15	-382	-603	-49
16	-382	-702	-51
17	-382	-802	-51

Post-Test

Index	Xmm	Ymm	Zmm
1	-268	814	-59
2	-310	725	-65
3	-325	626	-72
4	-338	528	-78
5	-348	429	-83
6	-356	329	-88
7	-362	229	-94
8	-366	129	-96
9	-367	29	-96
10	-349	-69	-99
11	-344	-170	-102
12	-372	-266	-102
13	-383	-366	-105
14	-390	-466	-106
15	-392	-566	-106
16	-379	-665	-106
17	-335	-751	-103

Difference

Index	Xmm	Ymm	Zmm
1	-113	-14	15
2	-71	-25	21
3	-57	-27	27
4	-44	-28	33
5	-33	-29	38
6	-25	-29	42
7	-19	-30	47
8	-16	-30	49
9	-14	-30	49
10	-33	-32	51
11	-38	-32	53
12	-10	-35	54
13	1	-36	55
14	7	-36	56
15	9	-36	56
16	-3	-37	55
17	-47	-52	52

Data Sheet 12 (Continued)

Exterior Static Crush For Impactor Face

Vehicle: 2003 Subaru Baja Pickup Truck

NHTSA No.: C35500

Deformable Barrier Face Profile Cont'd.

Level C - Mid Level

Pre-Test				Post-Test				Difference			
Index	Xmm	Ymm	Zmm	Index	Xmm	Ymm	Zmm	Index	Xmm	Ymm	Zmm
18	-382	802	-174	18	-269	826	-188	18	-112	-24	14
19	-382	699	-175	19	-299	729	-194	19	-82	-30	19
20	-382	601	-175	20	-322	634	-199	20	-60	-33	23
21	-382	501	-175	21	-339	535	-204	21	-43	-34	29
22	-382	400	-175	22	-353	435	-209	22	-29	-35	33
23	-382	301	-175	23	-361	335	-212	23	-21	-35	37
24	-382	201	-176	24	-367	236	-216	24	-16	-35	40
25	-382	101	-177	25	-369	135	-220	25	-13	-34	44
26	-383	-1	-178	26	-366	33	-224	26	-17	-35	46
27	-382	-101	-177	27	-358	-66	-227	27	-24	-35	50
28	-382	-202	-177	28	-359	-165	-228	28	-23	-36	52
29	-382	-301	-177	29	-365	-264	-229	29	-17	-36	52
30	-383	-400	-178	30	-373	-364	-232	30	-10	-36	54
31	-383	-501	-178	31	-373	-464	-232	31	-10	-37	54
32	-383	-601	-177	32	-372	-565	-232	32	-11	-37	54
33	-383	-701	-179	33	-361	-664	-232	33	-22	-37	52
34	-383	-802	-180	34	-331	-755	-224	34	-52	-47	44

Data Sheet 12 (Continued)

Exterior Static Crush For Impactor Face

Vehicle: 2003 Subaru Baja Pickup Truck

NIITSA No.: C35500

Deformable Barrier Face Profile Cont'd.

Level B - Top of Bumper

Pre-Test

Index	Xmm	Ymm	Zmm
35	-382	802	-300
36	-382	701	-300
37	-382	601	-300
38	-382	500	-301
39	-382	400	-302
40	-382	300	-302
41	-382	201	-303
42	-383	101	-304
43	-383	0	-304
44	-383	-100	-305
45	-383	-200	-305
46	-383	-300	-305
47	-383	-400	-305
48	-383	-500	-306
49	-383	-601	-306
50	-383	-702	-307
51	-383	-801	-307

Post-Test

Index	Xmm	Ymm	Zmm
35	-271	837	-306
36	-285	737	-309
37	-302	639	-312
38	-310	538	-315
39	-317	438	-318
40	-324	336	-321
41	-329	235	-324
42	-331	132	-326
43	-327	39	-328
44	-320	-72	-328
45	-312	-161	-327
46	-312	-263	-329
47	-309	-362	-330
48	-294	-472	-325
49	-285	-560	-321
50	-274	-660	-318
51	-270	-760	-320

Difference

Index	Xmm	Ymm	Zmm
35	-111	-34	7
36	-97	-36	9
37	-80	-38	12
38	-73	-38	14
39	-65	-37	16
40	-58	-36	19
41	-53	-34	21
42	-51	-32	21
43	-55	-39	23
44	-62	-28	23
45	-71	-39	23
46	-71	-37	24
47	-74	-38	25
48	-89	-28	19
49	-98	-41	15
50	-109	-42	10
51	-113	-42	13

Data Sheet 12 (Continued)

Exterior Static Crush For Impactor Face

Vehicle: 2003 Subaru Baja Pickup Truck

NHTSA No.: C35500

Deformable Barrier Face Profile Cont'd

Level A - Mid Bumper

Pre-Test

Index	Xmm	Ymm	Zmm
52	-475	798	-426
53	-485	699	-425
54	-486	600	-425
55	-486	500	-426
56	-486	400	-426
57	-486	301	-427
58	-486	201	-427
59	-486	100	-427
60	-486	-1	-429
61	-486	-100	-428
62	-486	-201	-429
63	-486	-301	-429
64	-486	-400	-428
65	-486	-500	-429
66	-486	-600	-428
67	-486	-700	-429
68	-474	-800	-428

Post-Test

Index	Xmm	Ymm	Zmm
52	-317	834	-433
53	-350	739	-435
54	-371	642	-438
55	-385	543	-440
56	-390	443	-442
57	-396	344	-444
58	-400	244	-445
59	-396	143	-447
60	-390	43	-449
61	-381	-56	-447
62	-373	-157	-449
63	-376	-256	-449
64	-374	-356	-448
65	-355	-454	-446
66	-331	-551	-442
67	-318	-650	-441
68	-306	-750	-439

Difference

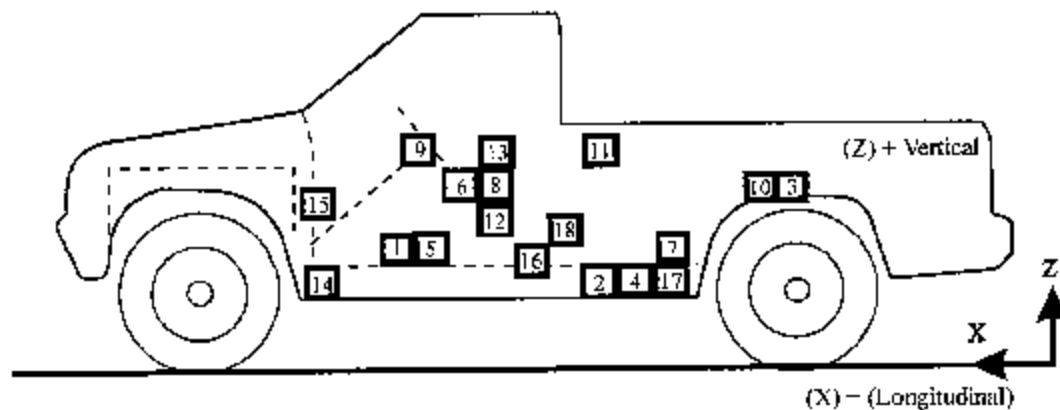
Index	Xmm	Ymm	Zmm
52	-158	-36	7
53	-136	-40	10
54	-115	-42	13
55	-101	-42	15
56	-95	-43	16
57	-90	-43	17
58	-86	-43	18
59	-89	-43	19
60	-96	-43	20
61	-105	-44	19
62	-113	-44	20
63	-110	-45	20
64	-113	-45	20
65	-131	-46	17
66	-155	-49	14
67	-169	-51	12
68	-168	-50	11

Data Sheet 13

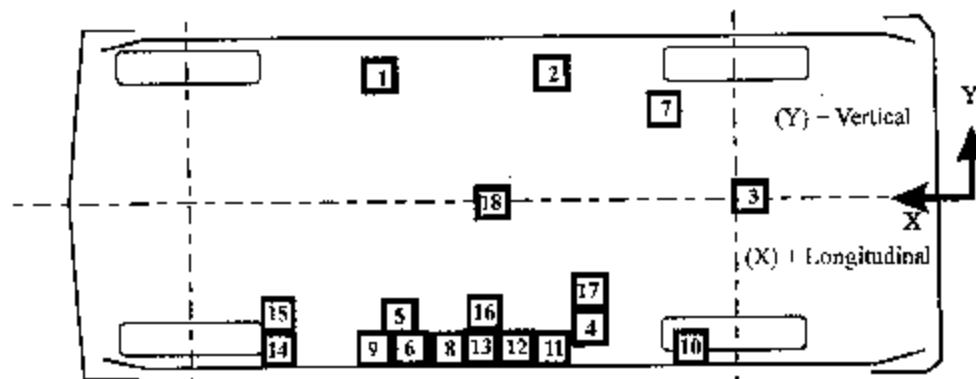
Test Vehicle Accelerometer Locations and Data Summary

Vehicle: 2003 Subaru Baja Pickup Truck

NHTSA No.: C35500



Side View



Bottom View

- | | |
|-------------------------------------|--------------------------------------|
| 1-Left Side Sill at Front Seat | 10-Right Rear Door Mid Rear |
| 2-Left Side Sill at Rear Seat | 11-Right Rear Door Upper Centerline |
| 3-Rear Floorpan Above Axle | 12-Right Lower B-pillar |
| 4-Right Side Sill at Rear Seat | 13-Right Middle B-pillar |
| 5-Right Side Sill at Front Seat | 14-Right Lower A-pillar |
| 6-Right Front Door on Centerline | 15-Right Middle A-pillar |
| 7-Left Rear Occupant Compartment | 16-Right Front Seat Track at H-point |
| 8-Right Front Door Mid Rear | 17-Right Rear Seat Track at H-point |
| 9-Right Front Door Upper Centerline | 18-Vehicle Center of Gravity |

Data Sheet 13 (Continued)

Test Vehicle Accelerometer Locations and Data Summary

Vehicle: 2003 Subaru Baja Pickup Truck

NHTSA No.: C35500

TEST NUMBER: 030218				POSITIVE			NEGATIVE
No. LOCATION	X	Y	Z	DIRECTION			DIRECTION
1 LEFT SIDE SILL AT FRONT SEAT LONGITUDINAL LATERAL VERTICAL RESULTANT	3344 mm	-613 mm	-345 mm	2.4 g 1.7 g 3.7 g 23.9 g	@ 51.9 ms @ 143.0 ms @ 64.6 ms @ 9.6 ms	6.3 g 20.8 g 10.8 g	@ 28.9 ms @ 9.5 ms @ 10.3 ms
2 LEFT SIDE SILL AT REAR SEAT LONGITUDINAL LATERAL VERTICAL RESULTANT	2217 mm	-620 mm	-339 mm	3.4 g 1.6 g 3.4 g 22.0 g	@ 51.4 ms @ 142.7 ms @ 83.8 ms @ 23.2 ms	3.9 g 20.8 g 9.4 g	@ 29.3 ms @ 23.1 ms @ 9.7 ms
3 REAR FLOORPAN ABOVE AXLE LONGITUDINAL LATERAL VERTICAL RESULTANT	1223 mm	0 mm	-579 mm	4.8 g 2.3 g 12.8 g 22.9 g	@ 11.6 ms @ 89.9 ms @ 15.6 ms @ 23.4 ms	9.0 g 22.2 g 16.7 g	@ 15.4 ms @ 23.2 ms @ 11.6 ms
4 RIGHT SIDE SILL AT REAR SEAT LATERAL	2174 mm	635 mm	-267 mm	8.9 g	@ 48.4 ms	35.6 g	@ 5.4 ms
5 RIGHT SIDE SILL AT FRONT SEAT LATERAL	3277 mm	628 mm	-334 mm	2.5 g	@ 145.0 ms	29.4 g	@ 7.9 ms

Data Sheet J3 (Continued)

Test Vehicle Accelerometer Locations and Data Summary

Vehicle: 2003 Subaru Baja Pickup Truck

NHISA No.: C35500

TEST NUMBER: 030218				POSITIVE	NEGATIVE
No. LOCATION	X	Y	Z	DIRECTION	DIRECTION
6 RIGHT FRONT DOOR ON CENTERLINE LATERAL ¹	2815 mm	740 mm	-642 mm	---	---
7 LEFT REAR OCCUPANT COMPARTMENT LATERAL	2104 mm	-560 mm	-368 mm	---	---
8 RIGHT FRONT DOOR MIDREAR LATERAL ¹	2541 mm	117 mm	-642 mm	1.8 g @ 144.8 ms	23.0 g @ 23.7 ms
9 RIGHT FRONT DOOR UPPER CENTERLINE LATERAL ¹	2777 mm	745 mm	-852 mm	---	---
10 RIGHT REAR DOOR MIDREAR LATERAL ¹	1972 mm	720 mm	-715 mm	---	---
11 RIGHT REAR DOOR UPPER CENTERLINE LATERAL	1972 mm	698 mm	-935 mm	46.0 g @ 50.3 ms	100.8 g @ 14.5 ms
12 RIGHT LOWER B-POST LATERAL	2437 mm	680 mm	-595 mm	21.0 g @ 30.6 ms	94.8 g @ 5.2 ms

Data Sheet 13 (Continued)
Test Vehicle Accelerometer Locations and Data Summary

Vehicle: 2003 Subaru Baja Pickup Truck

NHTSA No.: C35500

TEST NUMBER: 030218				POSITIVE				NEGATIVE
No. LOCATION	X	Y	Z	DIRECTION				DIRECTION
13 RIGHT MIDDLE B-POST LATERAL	2422 mm	668 mm	-899 mm	16.7 g @ 34.3 ms	80.6 g @ 5.6 ms			
14 RIGHT LOWER A-POST LATERAL	3454 mm	762 mm	-515 mm	---	---			
15 RIGHT MIDDLE A-POST LATERAL	3426 mm	762 mm	-835 mm	---	---			
16 RIGHT FRONT SEAT TRACK LATERAL	2668 mm	691 mm	-407 mm	5.9 g @ 47.9 ms	39.8 g @ 5.0 ms			
17 RIGHT REAR SEAT TRACK LATERAL	2060 mm	610 mm	-410 mm	1.3 g @ 144.6 ms	35.2 g @ 23.3 ms			
18 VEHICLE CENTER OF GRAVITY	991 mm	0 mm	-477 mm	2.3 g @ 68.5 ms	1.5 g @ 34.9 ms			
LONGITUDINAL				5.5 g @ 31.0 ms	51.6 g @ 24.7 ms			
LATERAL				15.3 g @ 32.6 ms	10.7 g @ 7.6 ms			
VERTICAL				51.8 g @ 24.6 ms				
RESULTANT								

REFERENCE: X: + FORWARD FROM REAR BUMPER
Y: + RIGHTWARD FROM VEHICLE CENTERLINE
Z: + DOWNWARD FROM GROUND LEVEL

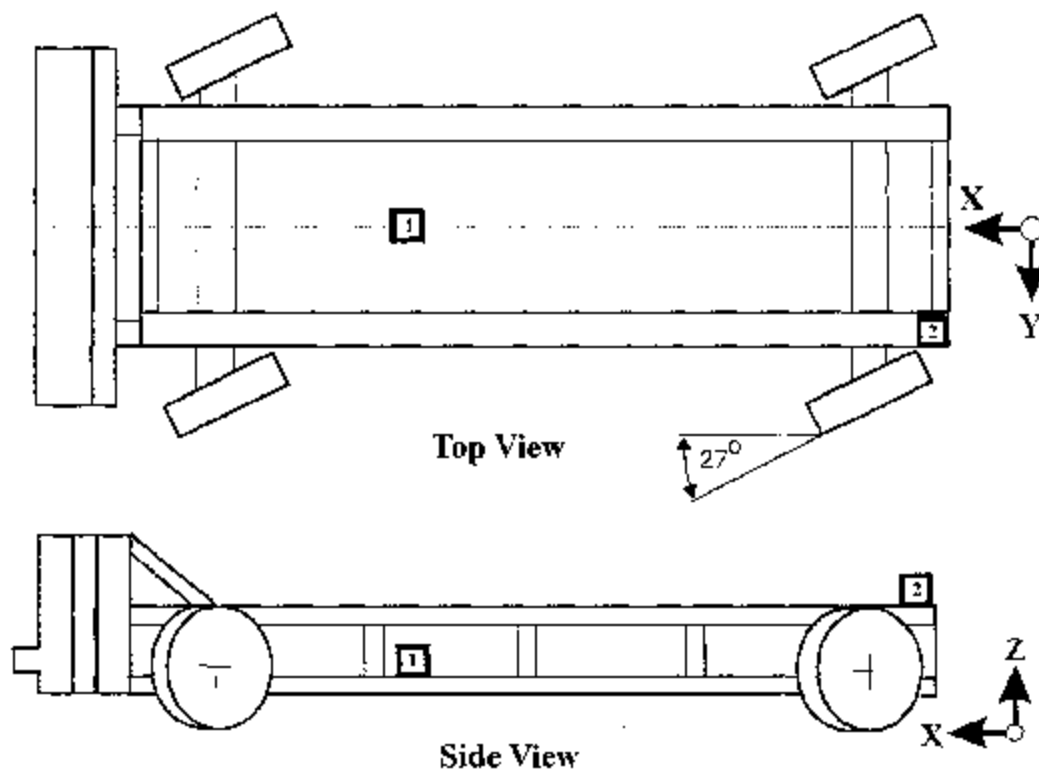
For acceleration data sign convention, see Report Sign Convention in Appendix D.
1 See DATA ACQUISITION EXPLANATIONS

Data Sheet 14

MDB Accelerometer Locations and Data Summary

Vehicle: 2003 Subaru Baja Pickup Truck

NHTSA No.: C35500



Accel. No.	Location	Coordinates (millimeters)			Positive Direction		Negative Direction	
		X*	Y*	Z*	Max. (g)	Time (ms)	Max. (g)	Time (ms)
1	MDB Center of Gravity	1855	0	633				
	Longitudinal X				1.4	74.8	21.5	42.2
	Lateral Y				7.7	37.4	2.0	69.6
	Vertical Z				6.7	15.9	3.9	25.7
	Resultant R				22.5	36.8	0.0	102.5
2	Rear Frame Member	375	642	520				
	Longitudinal X				4.6	86.2	24.0	35.4
	Lateral Y				2.1	55.0	13.1	36.4

*Reference: X = Rear Bumper (+ Forward)
 Y = Vehicle Centerline (+ To Right)
 Z = Ground Level (+ Up)

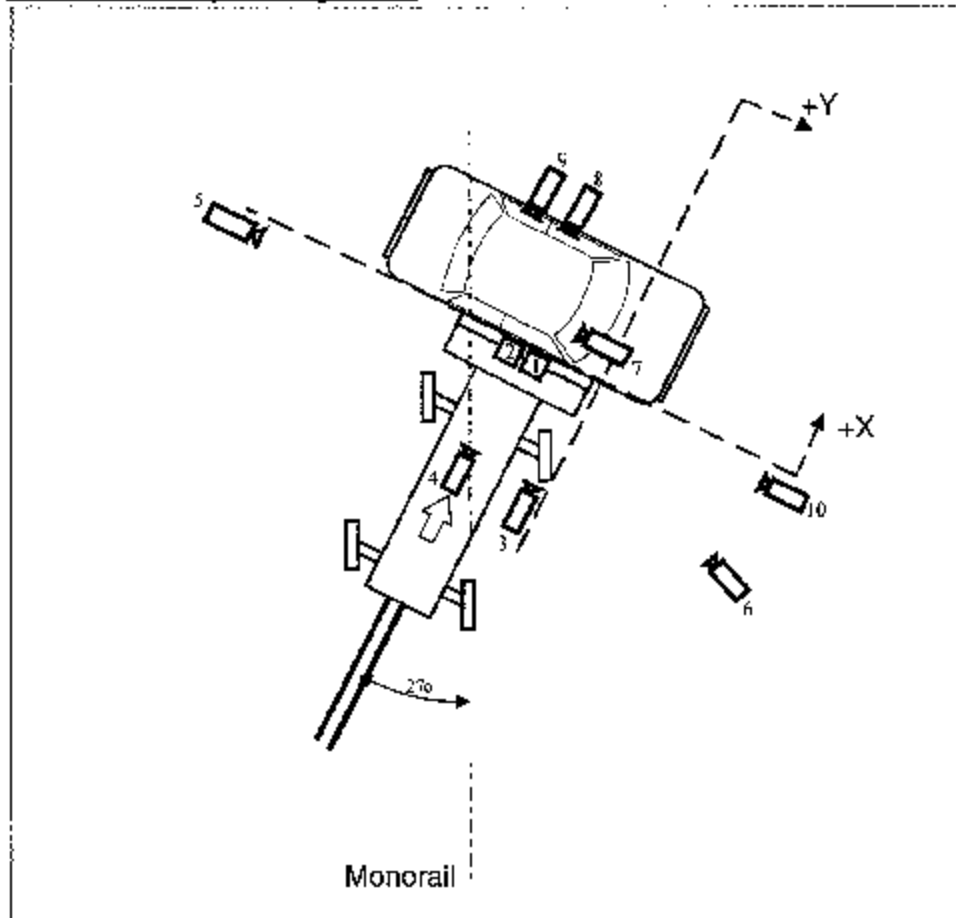
All measurements accurate to within ± 3 mm.

Data Sheet 15

High-Speed Camera Locations and Data Summary

Vehicle: 2003 Subaru Baja Pickup Truck

NHTSA No.: C35500



Impact Area		Location, mm			Angle	Lens	Speed
Camera Number	Location	X	Y	Z	(deg)	(mm)	(fps)
1	Overhead wide	1100	1900	-5800	-66.1	5	1005
2	Overhead tight	1100	1400	-5800	-85.8	13	320
3	Onboard MDB left side	-1792	5	-800	-0.6	13	1015
4	Onboard MDB center	-2460	-838	-1400	-6.7	25	1015
5	Right side of MDB	830	-13950	-2220	-0.5	13	960
6	Left side of MDB	-2070	3503	-953	0.0	13	1010
7	Onboard vehicle front	530	-450	-1223	-5.4	8	430
8	Onboard side front door	1652	-840	-1070	-9.5	8	1025
9	Onboard side rear door	1652	-1653	-1060	-10.7	8	---
10	Digital overall event	-190	-11000	-1101	-1.8	13	1000

+X: Forward (referenced to MDB) from impact point

+Y: Rightward (referenced to MDB) from impact point

+Z: Downward from ground level

¹ Too slow to time

Section 5

Vehicle Fuel System Integrity

Data Sheet 16

FMVSS 301 Fuel System Integrity Data

NHTSA No.: C35500

Test Date: 03/03/03

Vehicle Year/Make/Model/Body Style: 2003 Subaru Baja Pickup Truck

Test Vehicle Impact Type :

☐	Frontal (48.28 km/h)
☐	Oblique (48.28 km/h) with ☐ ° barrier face first contacting the (driver/passenger) side
☐	Rear Moving Barrier (48.28 km/h)
☐	Lateral Moving Barrier (32.19 km/h)
☒	Side Impact Moving Deformable Barrier (53.0 km/h) contacting the <u>passenger</u> side

Fuel Spillage Measurement:

1. From impact until vehicle motion ceases
2. For five-minute period after vehicle motion ceases
3. For next 25 minutes.

Actual	Maximum Allowed
0 g	28 g
0 g	142 g
0 g	28 g/1 minute

Solvent Spillage Details :

None

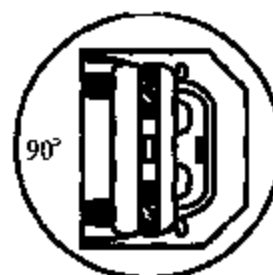
Data Sheet 17

FMVSS 301 Rollover Data

Vehicle: 2003 Subaru Baja Pickup Truck

NHTSA No.: C35500

0 - 90 Degrees



1. Determination of Solvent Collection Time Period:

Rollover Fixture 90° Rotation Time 1 minutes 30 seconds

(Spec. Range = 1 to 3 minutes)

FMVSS 301 Position Hold Time + 5 minutes 0 seconds

Total 6 minutes 30 seconds

Next whole minute interval 7 minutes

2. FMVSS 301 Requirements:

(1) Time Period

First 5 minutes from onset of rotation	6th min.	7th min.	8th min. (if required)
--	----------	----------	------------------------

(2) Maximum Allowable Solvent Spillage

142 g	28 g	28 g	28 g
-------	------	------	------

3. Actual Test Vehicle Solvent Spillage:

0 g	0 g	0 g	N/A
-----	-----	-----	-----

Note: Record spillage for whole minute intervals only as determined above.

4. Solvent Spillage Location(s):

None

Data Sheet 17 (Continued)

FMVSS 301 Rollover Data

Vehicle: 2003 Subaru Baja Pickup Truck

NHTSA No.: C35500

90 - 180 Degrees



1. Determination of Solvent Collection Time Period:

Rollover Fixture 90° Rotation Time 1 minutes 30 seconds

(Spec. Range = 1 to 3 minutes)

FMVSS 301 Position Hold Time + 5 minutes 0 seconds

Total 6 minutes 30 seconds

Next whole minute interval 7 minutes

2. FMVSS 301 Requirements:

(1) Time Period

First 5 minutes from onset of rotation	6th min.	7th min.	8th min. (if required)
--	----------	----------	------------------------

(2) Maximum Allowable Solvent Spillage

142 g	28 g	28 g	28 g
-------	------	------	------

3. Actual Test Vehicle Solvent Spillage:

0 g	0 g	0 g	N/A
-----	-----	-----	-----

Note: Record spillage for whole minute intervals only as determined above.

4. Solvent Spillage Location(s):

None

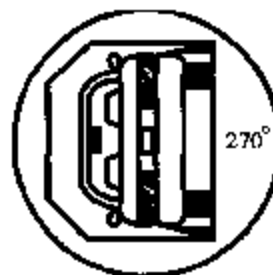
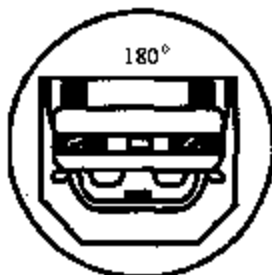
Data Sheet 17 (Continued)

FMVSS 301 Rollover Data

Vehicle: 2003 Subaru Baja Pickup Truck

NHTSA No.: C35500

180 - 270 Degrees



1. Determination of Solvent Collection Time Period:

Rollover Fixture 90° Rotation Time	<u>1</u>	minutes	<u>30</u>	seconds
(Spec. Range = 1 to 3 minutes)				
FMVSS 301 Position Hold Time +	<u>5</u>	minutes	<u>0</u>	seconds
Total	<u>6</u>	minutes	<u>30</u>	seconds
Next whole minute interval	<u>7</u>	minutes		

2. FMVSS 301 Requirements:

(1) Time Period

First 5 minutes from onset of rotation	6th min.	7th min.	8th min. (if required)
--	----------	----------	------------------------

(2) Maximum Allowable Solvent Spillage

142 g	28 g	28 g	28 g
-------	------	------	------

3. Actual Test Vehicle Solvent Spillage:

0 g	0 g	0 g	N/A
-----	-----	-----	-----

Note: Record spillage for whole minute intervals only as determined above.

4. Solvent Spillage Location(s):

None

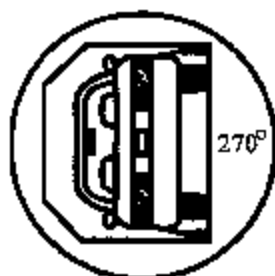
Data Sheet 17 (Continued)

FMVSS 301 Rollover Data

Vehicle: 2003 Subaru Baja Pickup Truck

NHTSA No.: C35500

270 - 360 Degrees



1. Determination Of Solvent Collection Time Period:

Rollover Fixture 90° Rotation Time	<u>1</u>	minutes	<u>30</u>	seconds
(Spec. Range = 1 to 3 minutes)				
FMVSS 301 Position Hold Time +	<u>5</u>	minutes	<u>0</u>	seconds
Total	<u>6</u>	minutes	<u>30</u>	seconds
Next whole minute interval	<u>7</u>	minutes		

2. FMVSS 301 Requirements:

(1) Time Period

First 5 minutes from onset of rotation	6th min.	7th min.	8th min. (if required)
--	----------	----------	------------------------

(2) Maximum Allowable Solvent Spillage

142 g	28 g	28 g	28 g
-------	------	------	------

3. Actual Test Vehicle Solvent Spillage:

0 g	0 g	0 g	N/A
-----	-----	-----	-----

Note: Record spillage for whole minute intervals only as determined above.

4. Solvent Spillage Location(s):

None

Appendix A

Photographs

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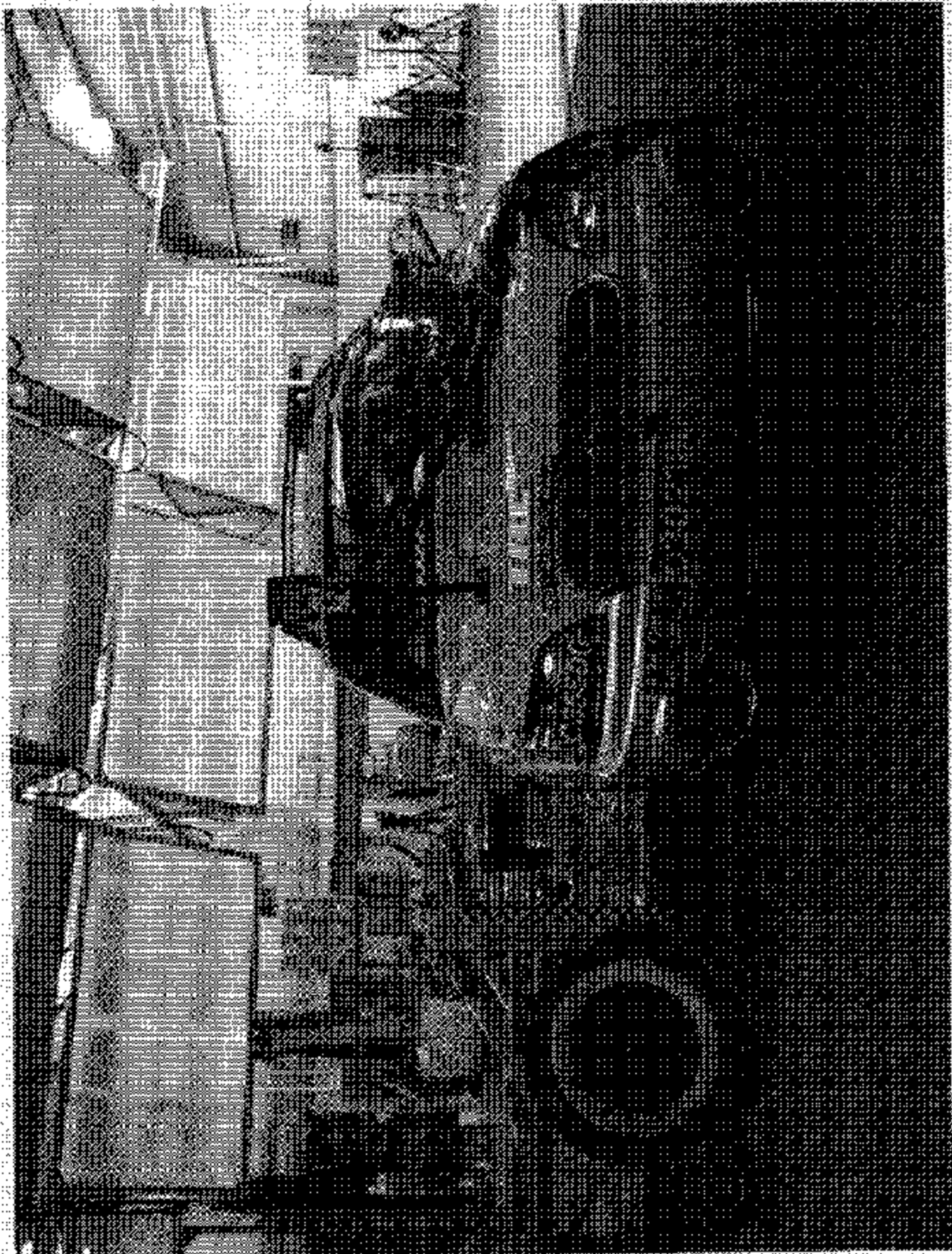


Figure A-1 Pre-Test Front View of Test Vehicle

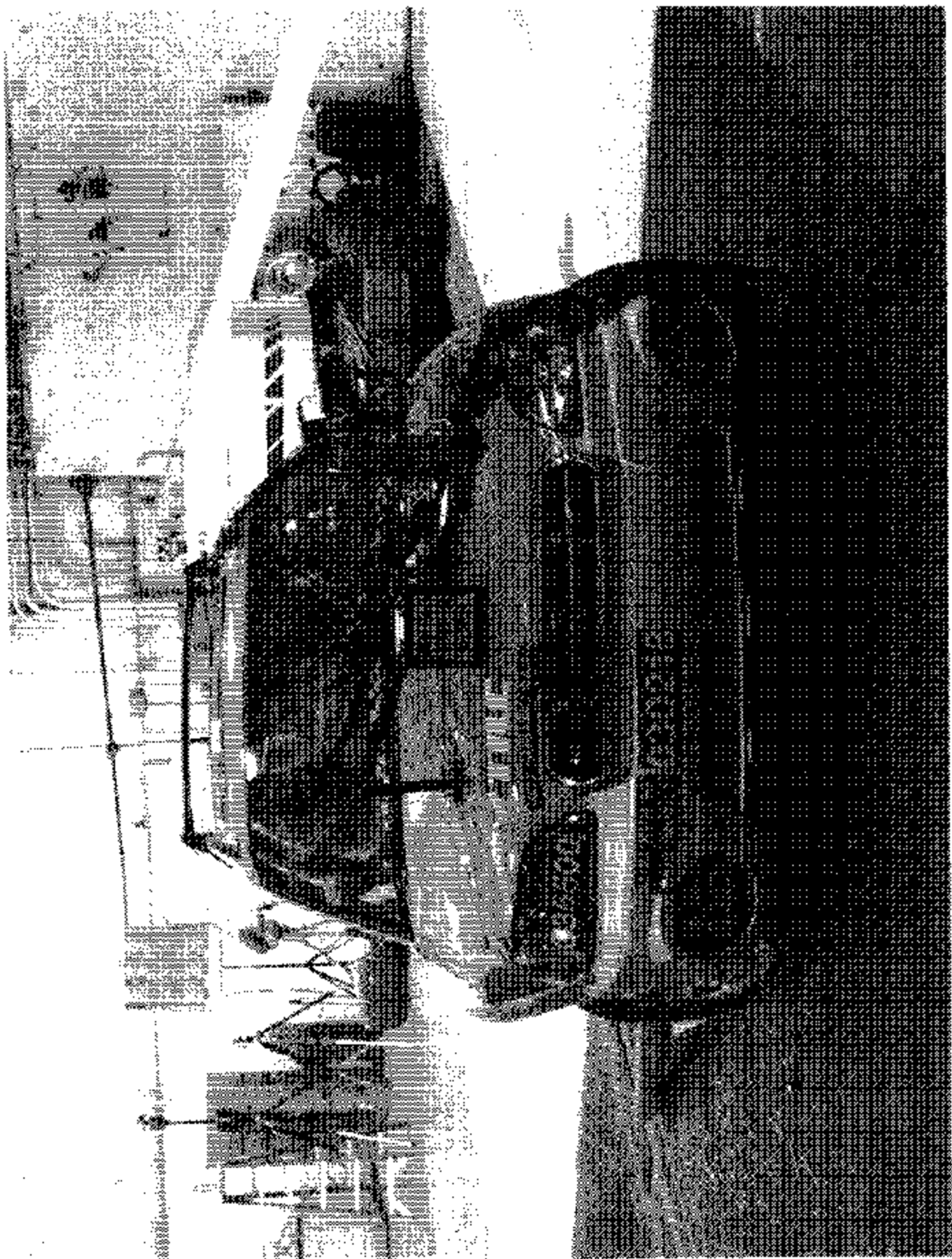


Figure A-2 Post-Test Front View of Test Vehicle



Figure A-3 Pre-Test Impacted Side View of Test Vehicle

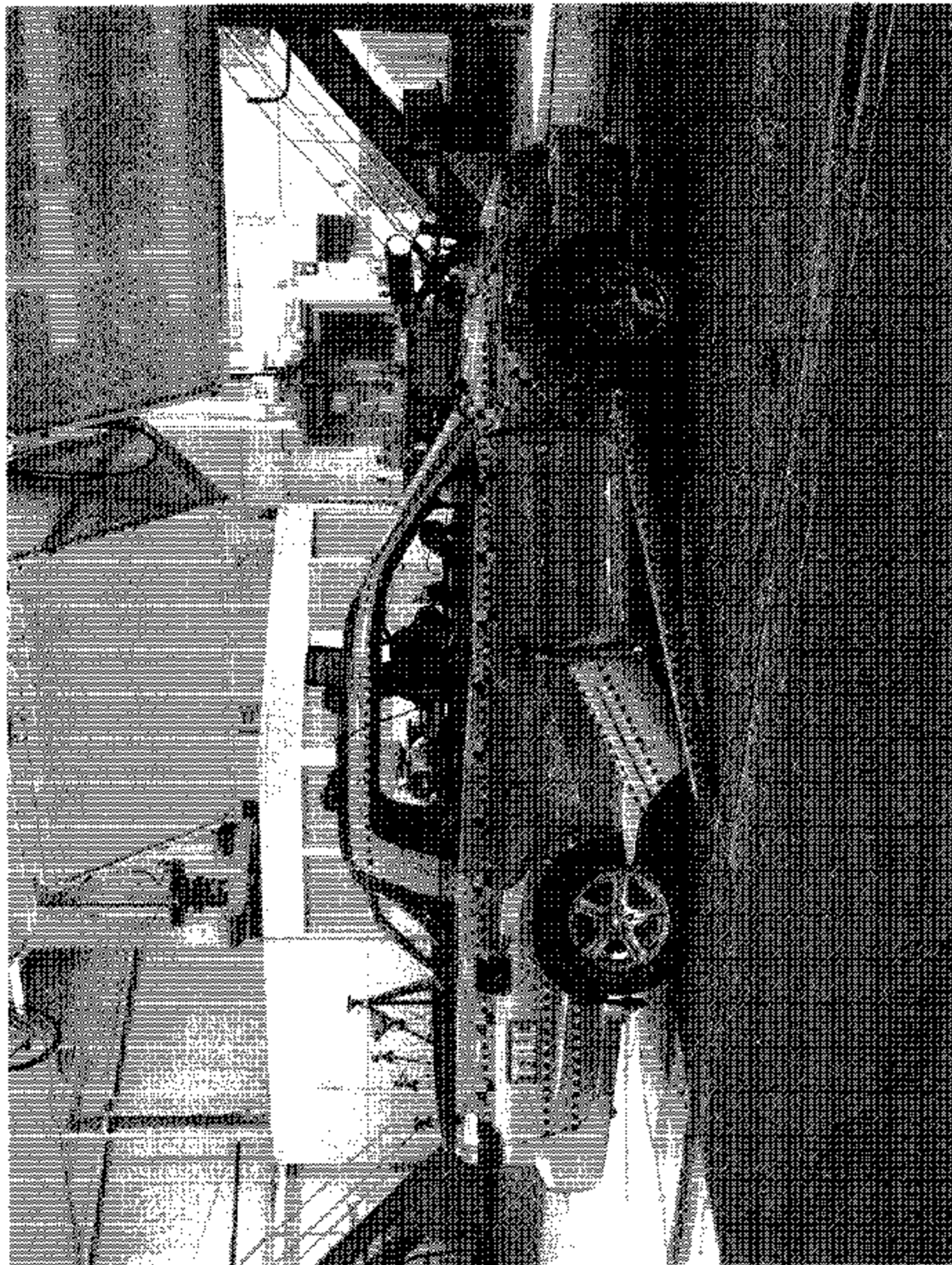


Figure A-4 Post-Test Impacted Side View of Test Vehicle

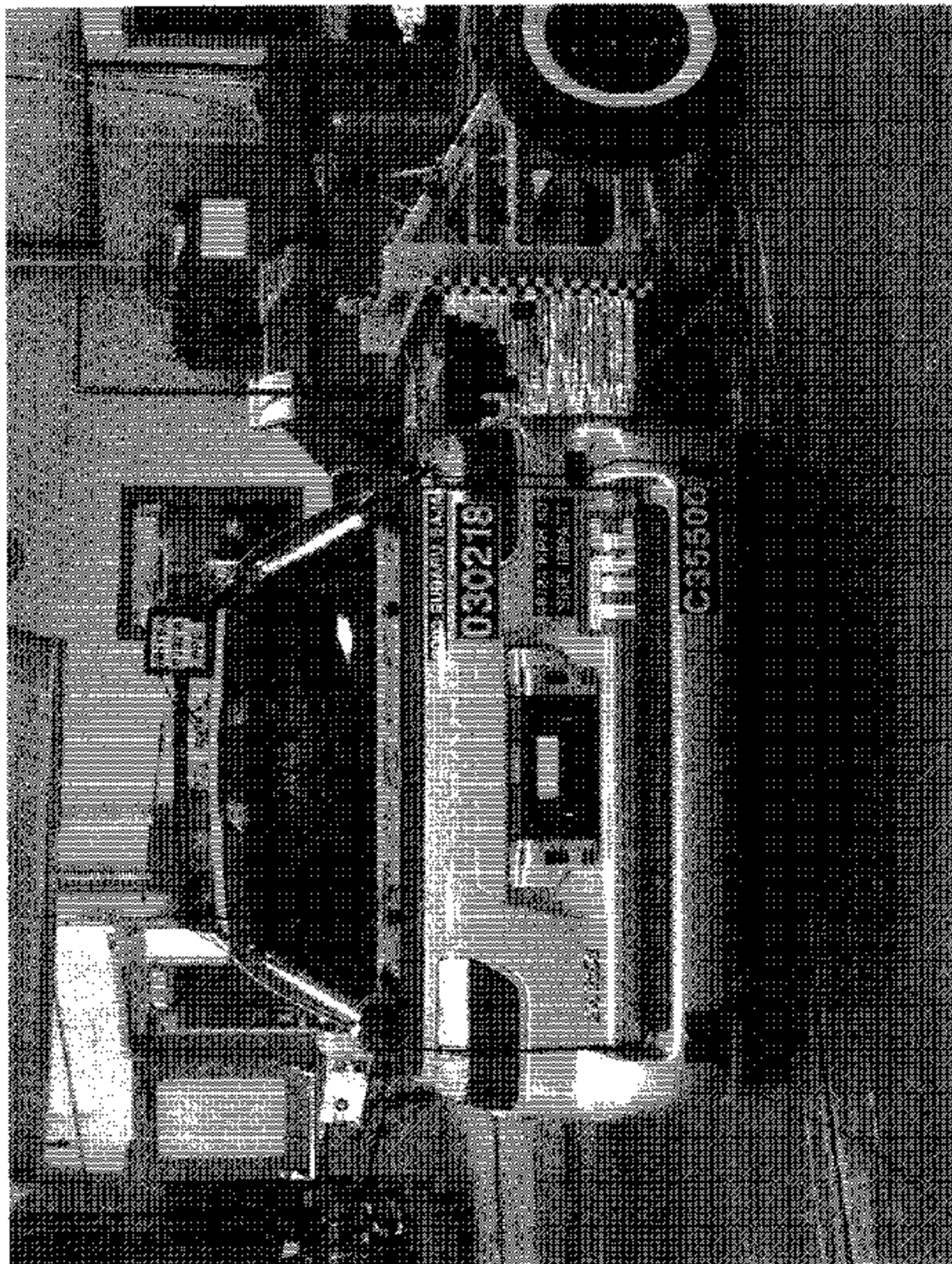


Figure A-5 Pre-Test Rear View of Test Vehicle

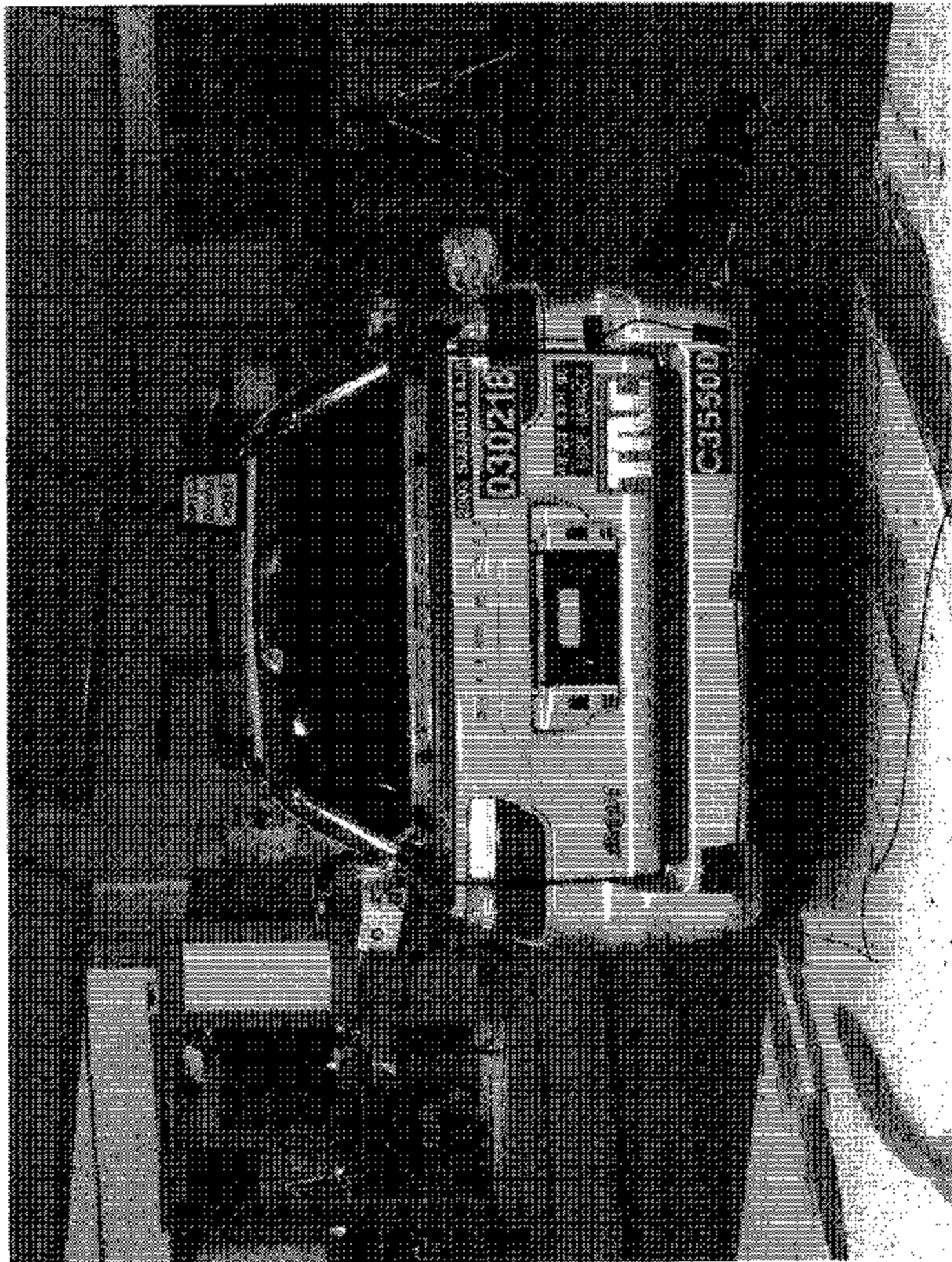


Figure A-6 Post-Test Rear View of Test Vehicle

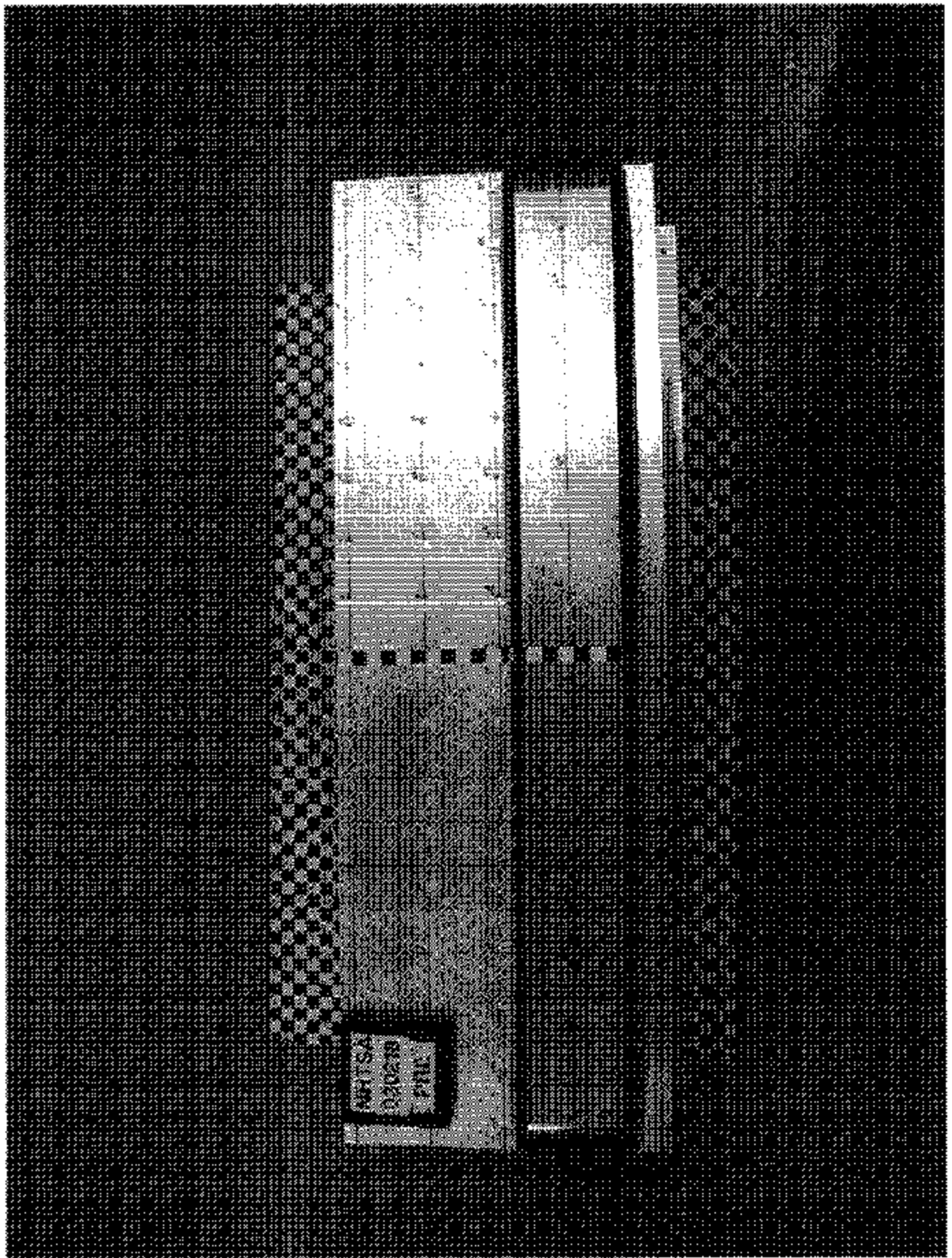


Figure A-7 Pre-Test Frontal View of Impactor Face

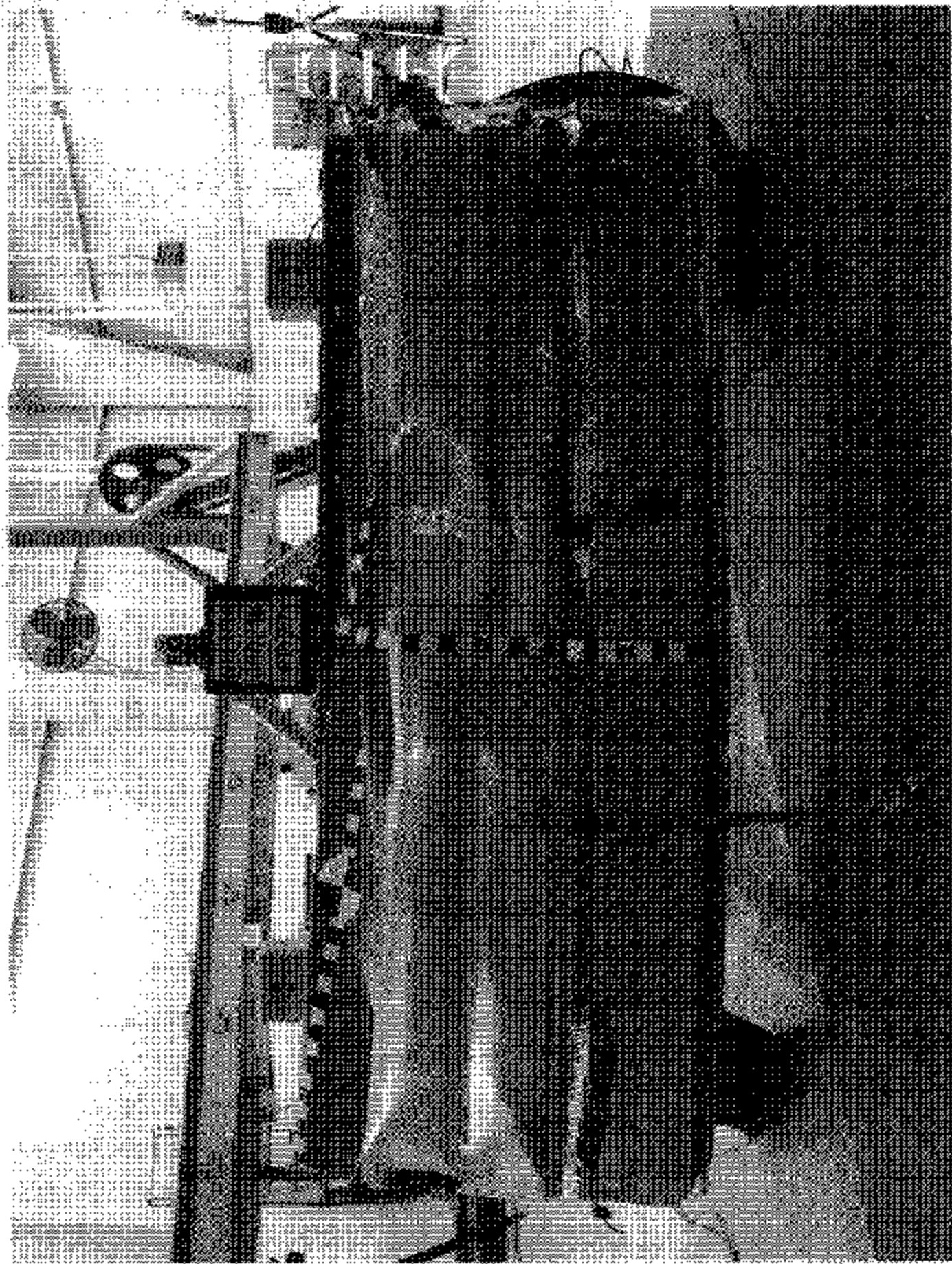


Figure A-8. Post-Test Frontal View of Impactor Face

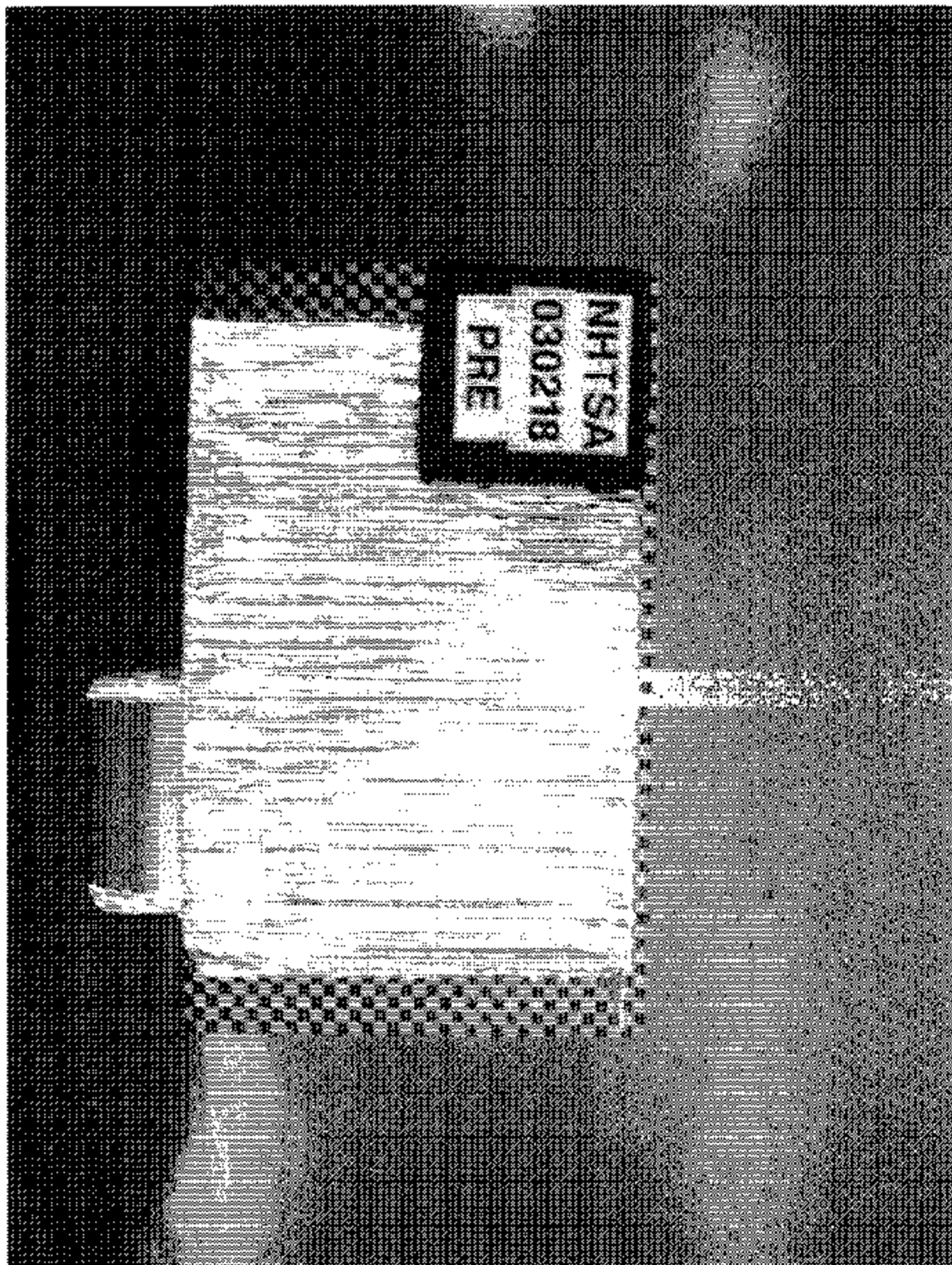


Figure A-9 Pre-Test Left Side View of Impactor Face

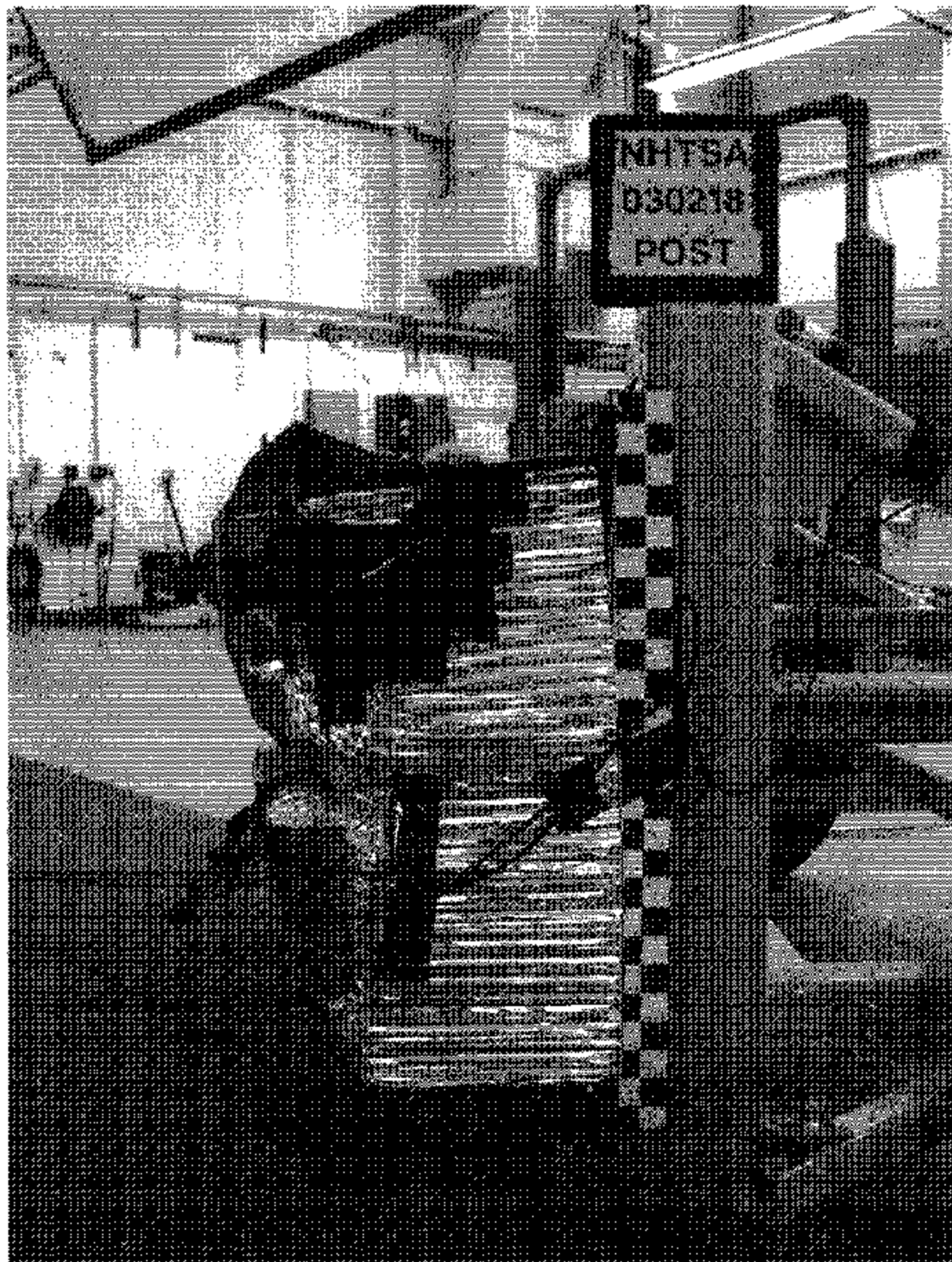


Figure A-10 Post-Test Left Side View of Impactor Face

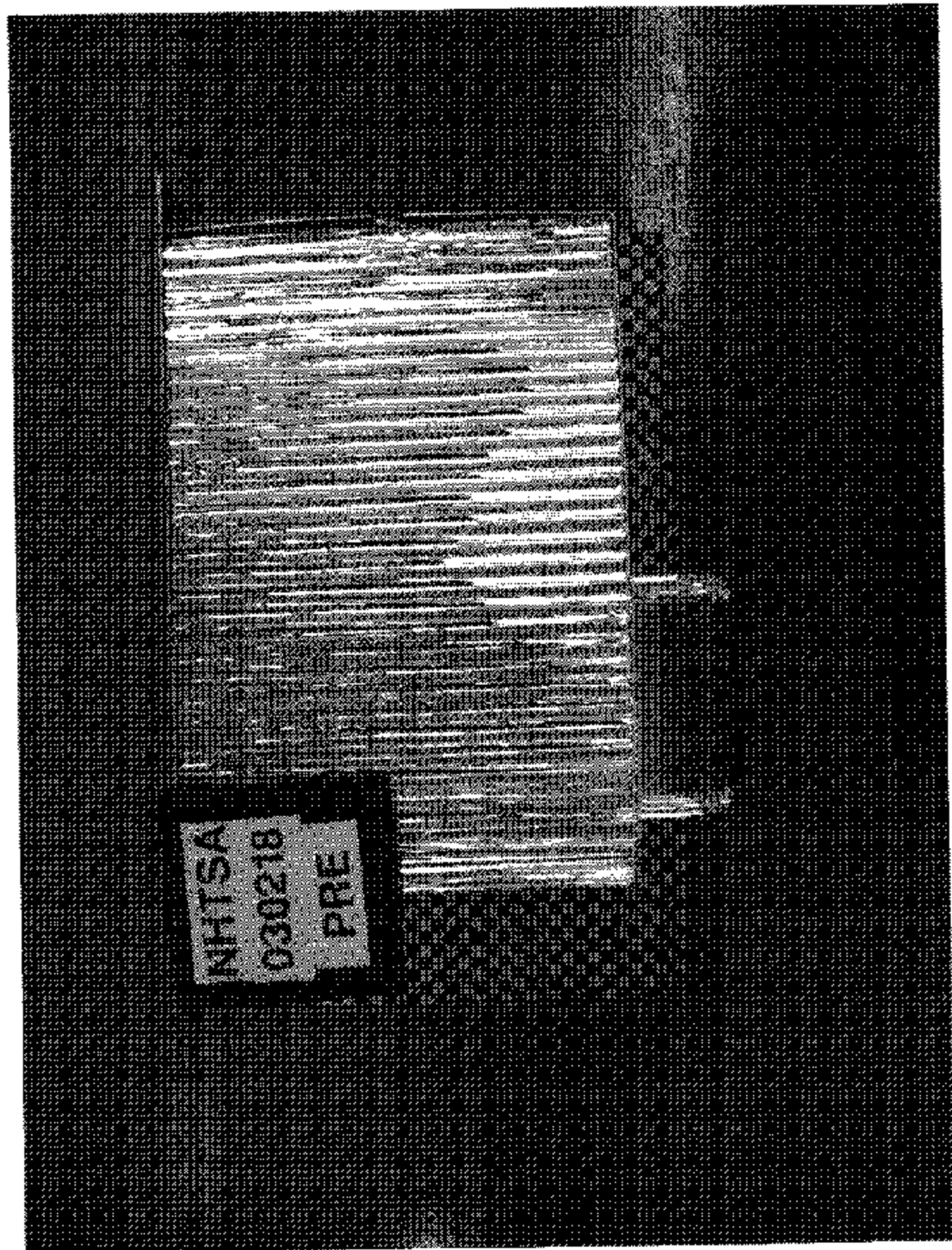


Figure A-11 Pre-Test Right Side View of Impactor Face

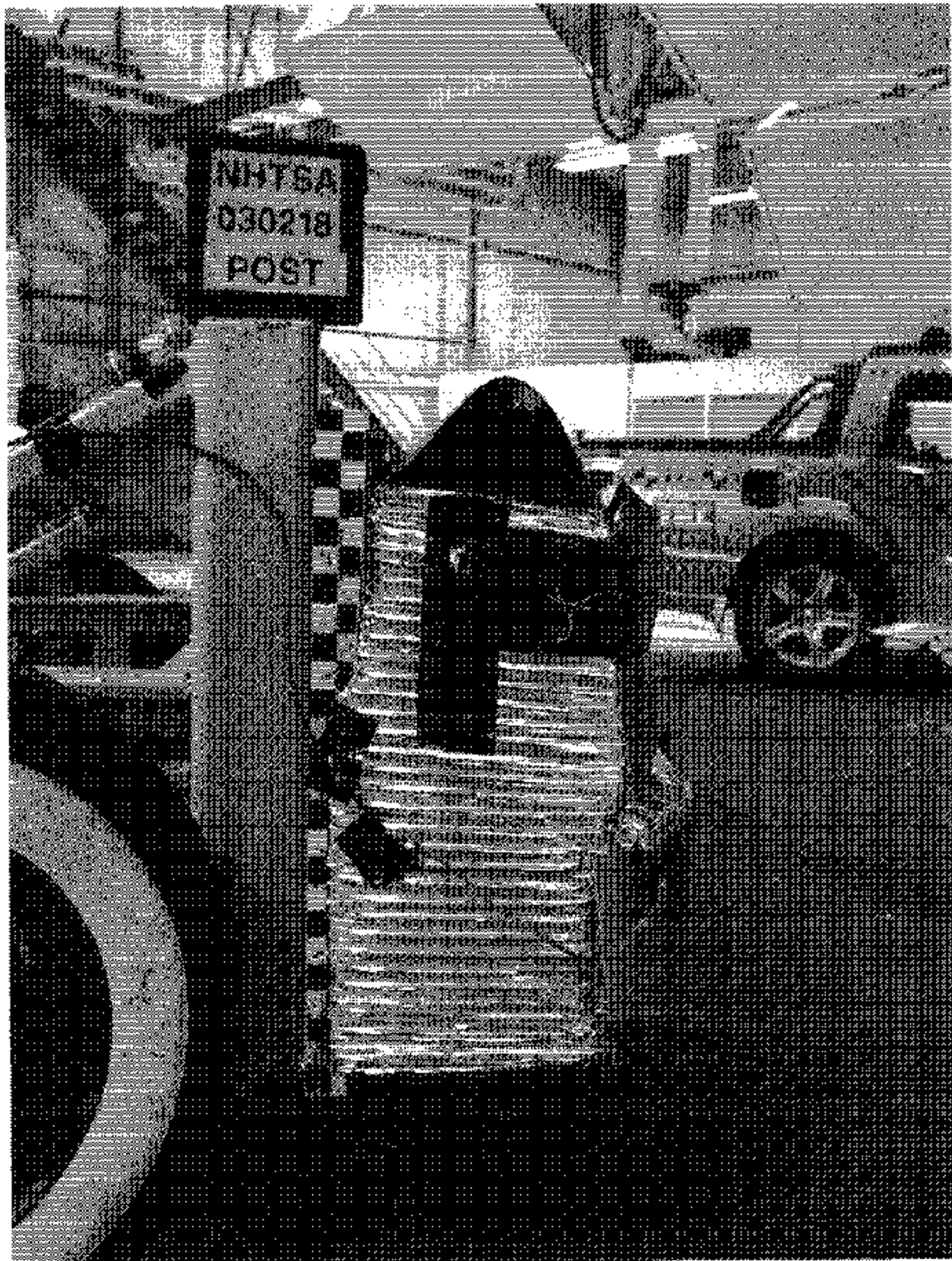


Figure A-12 Post-Test Right Side View of Impactor Face

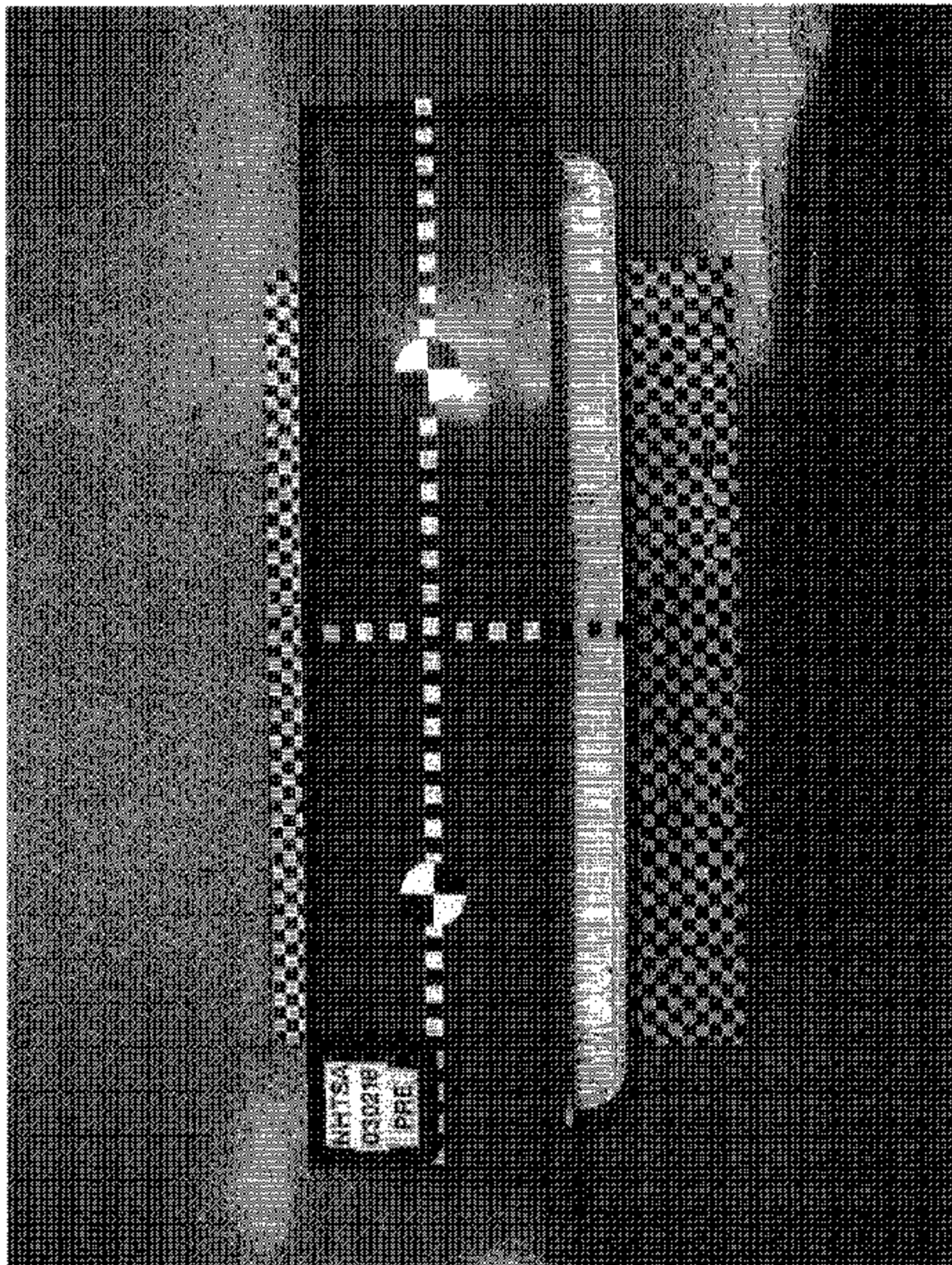


Figure A-13 Pre-Test Top View of Impactor Face

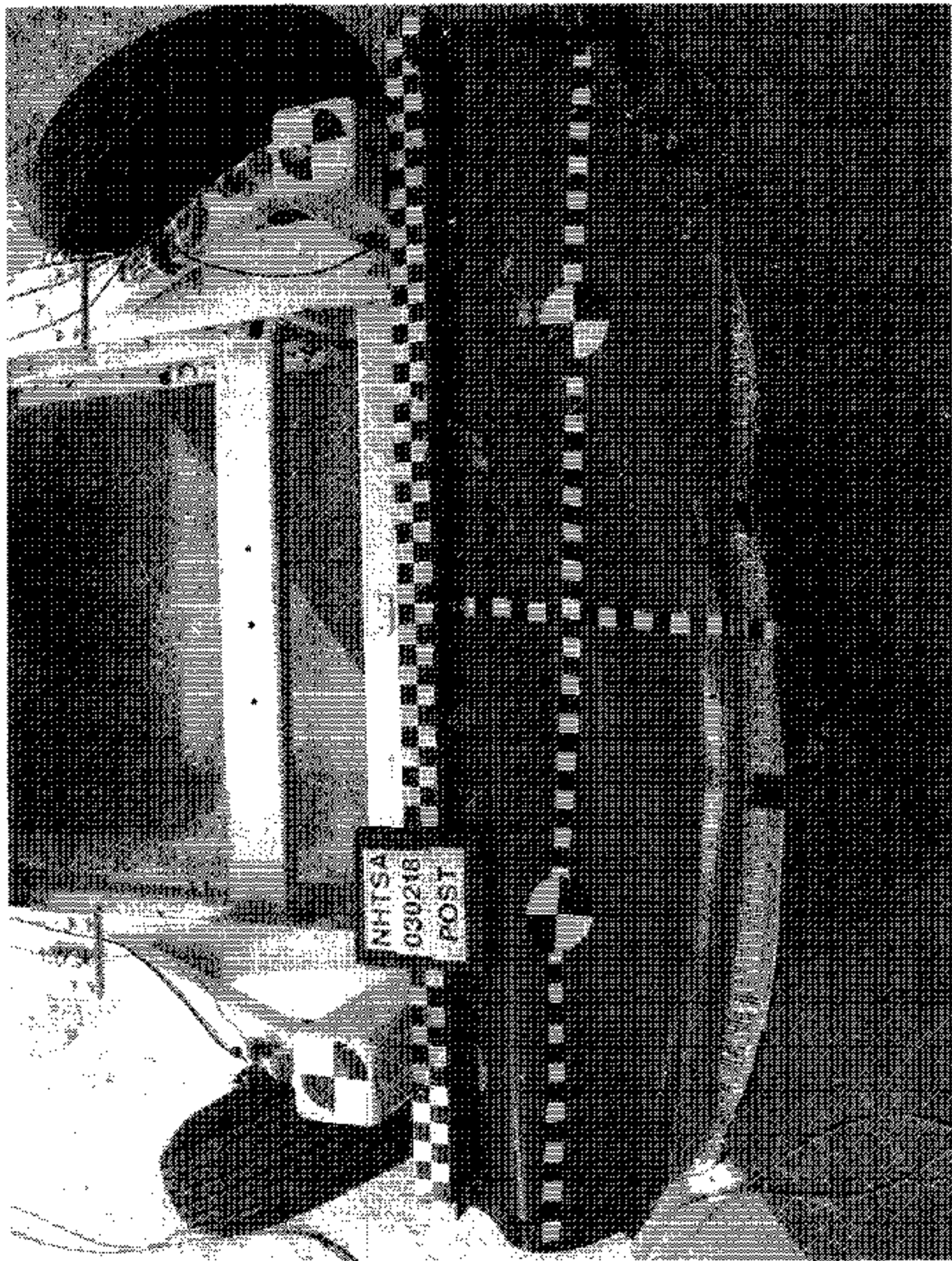


Figure A-14 Post-Test Top View of Impactor Face

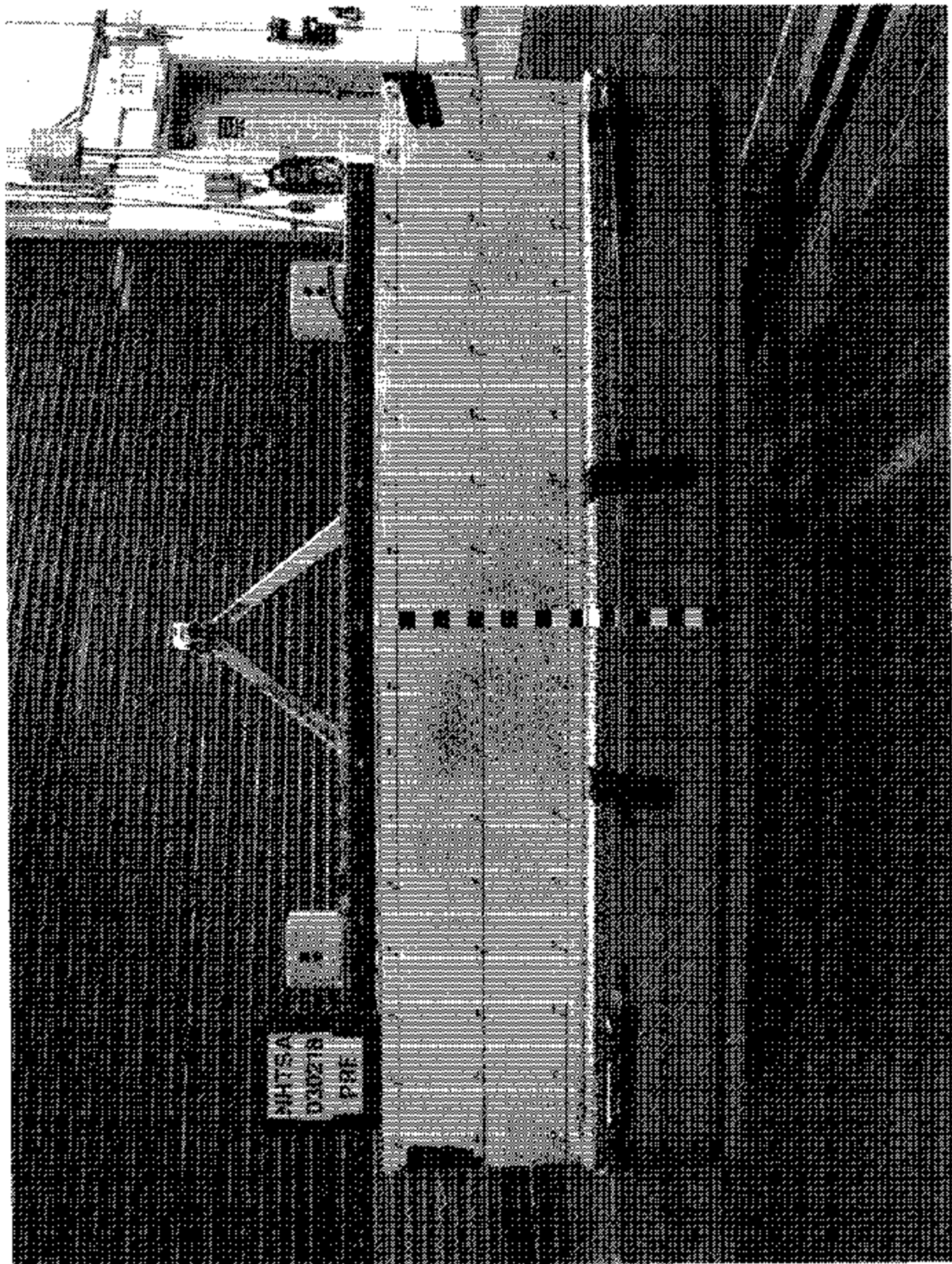


Figure A-15 Pre-Test View of MDB Showing Contact Switches in Place

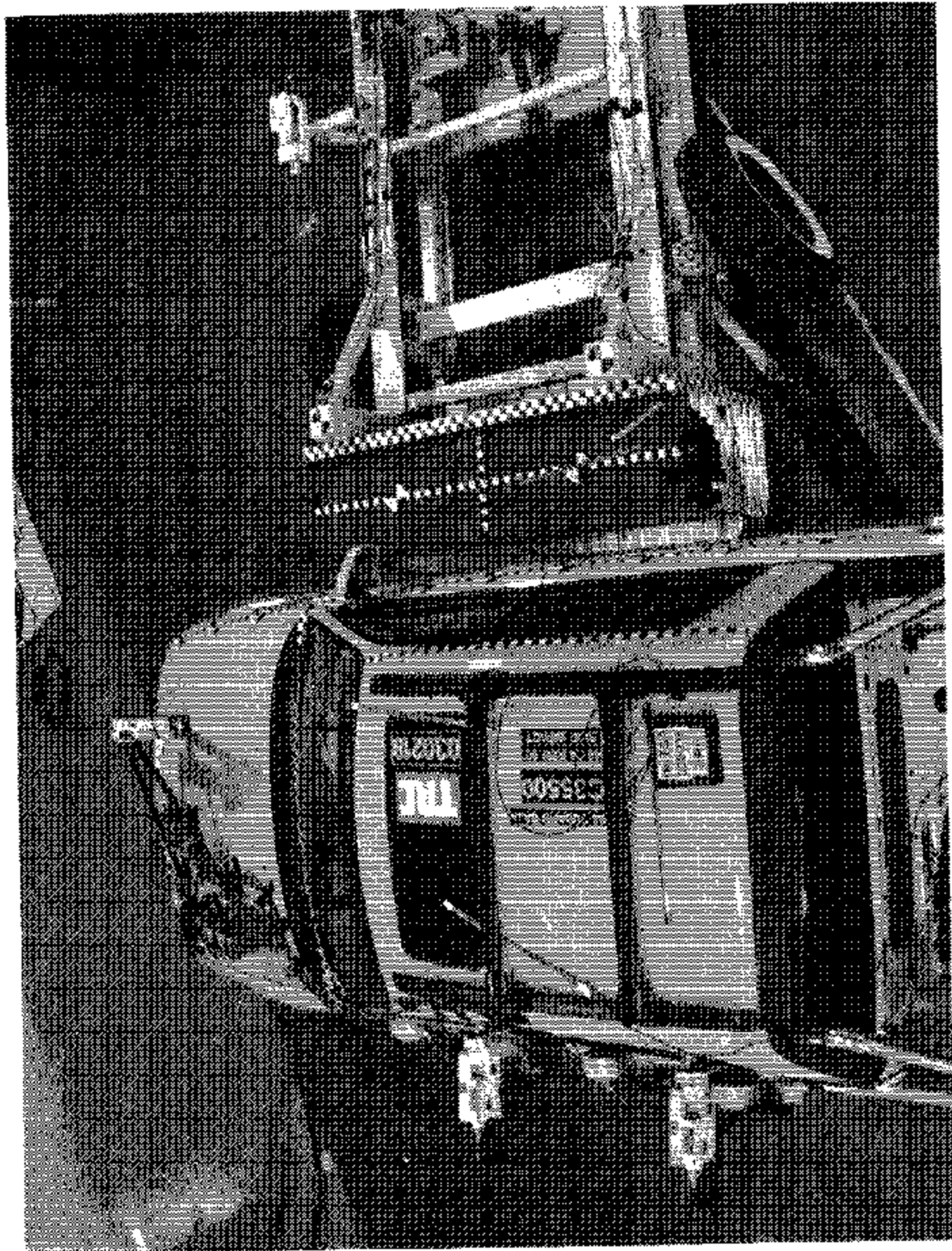


Figure A-16 Pre-Test Overhead View of MDB Aligned with Vehicle

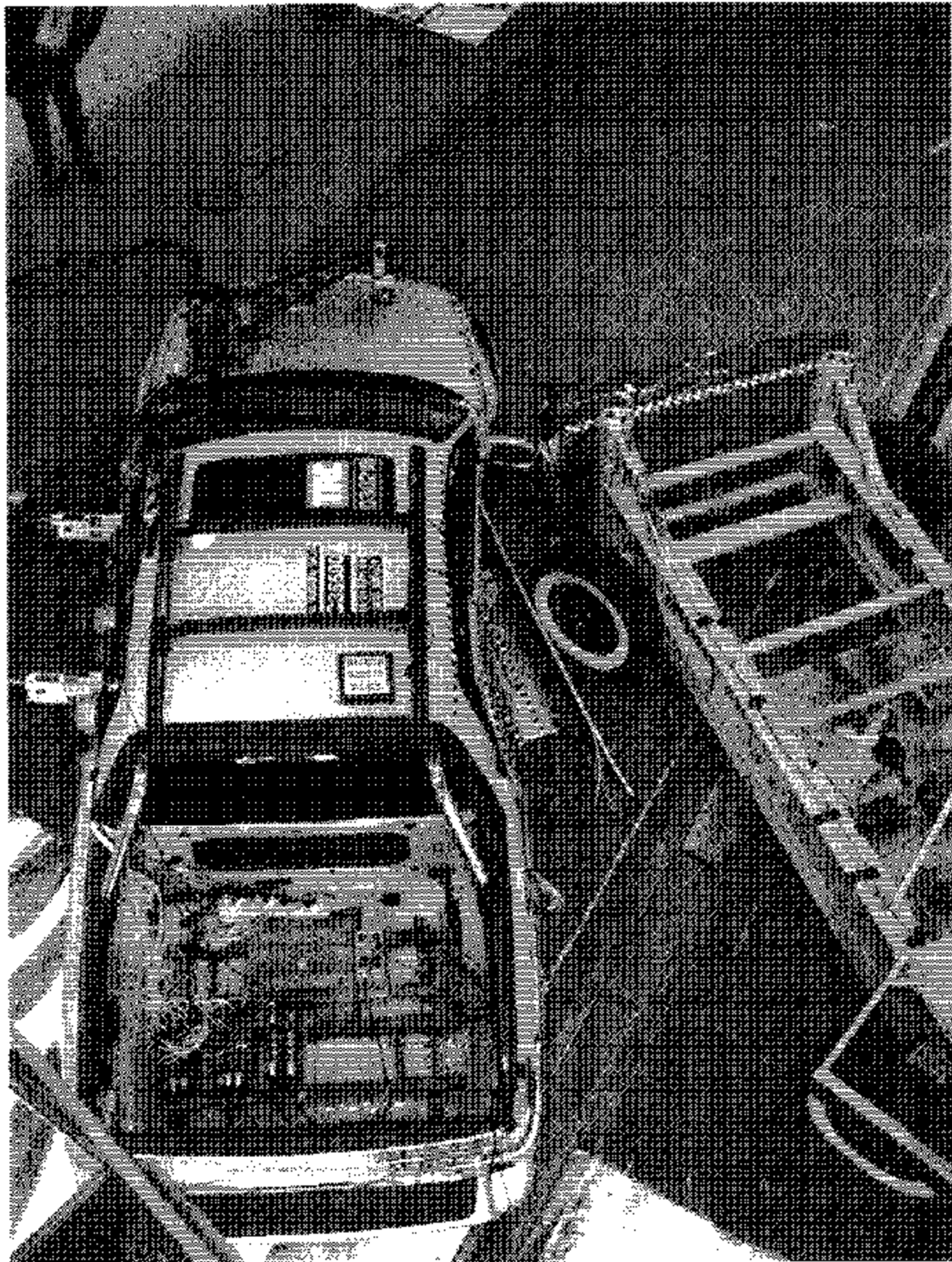


Figure A-17 Post-Test Overhead View of MDB and Vehicle

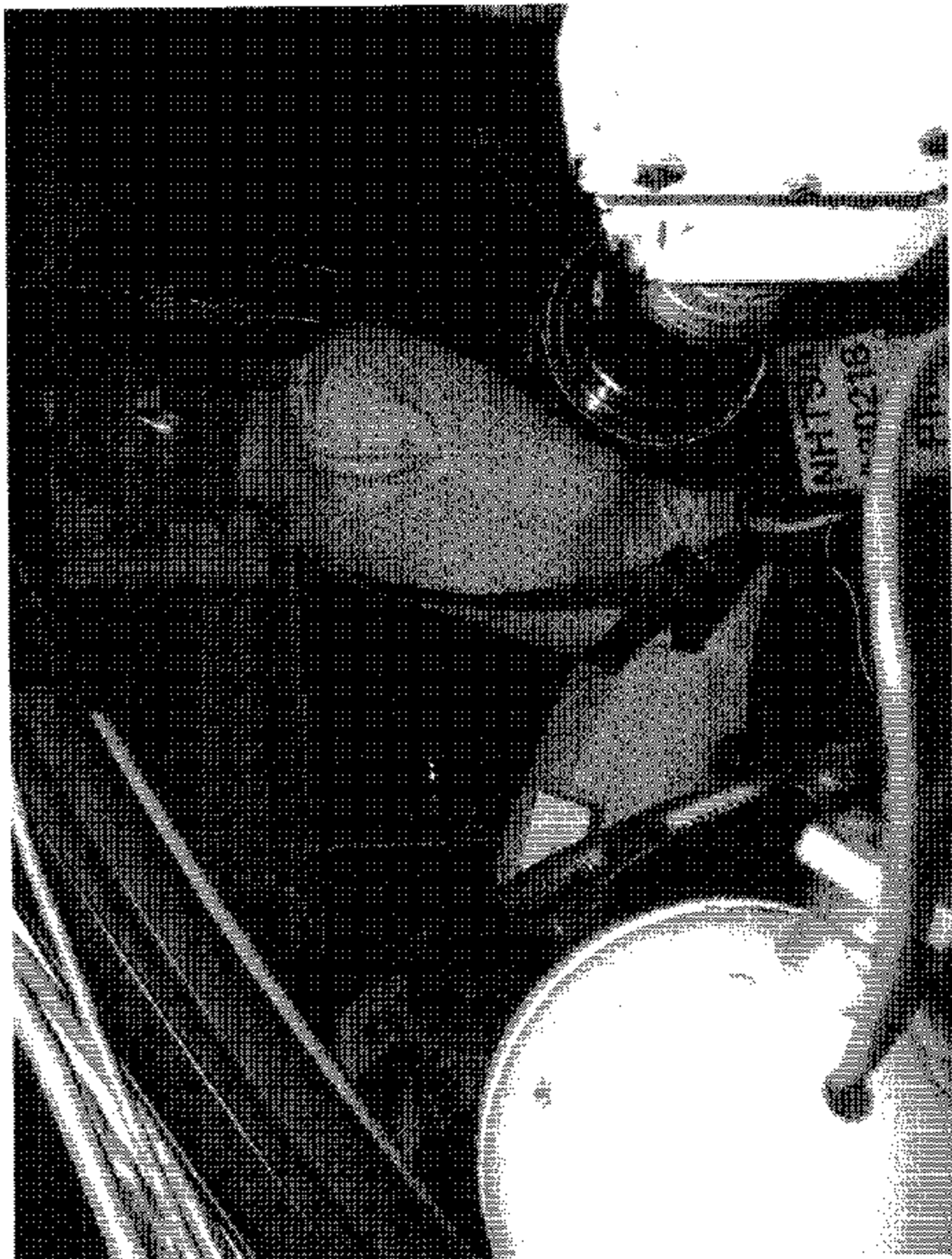


Figure A-18 Pre-Test Left Occupant Compartment View of Front SID



Figure A-19 Post-Test Left Occupant Compartment View of Front SID

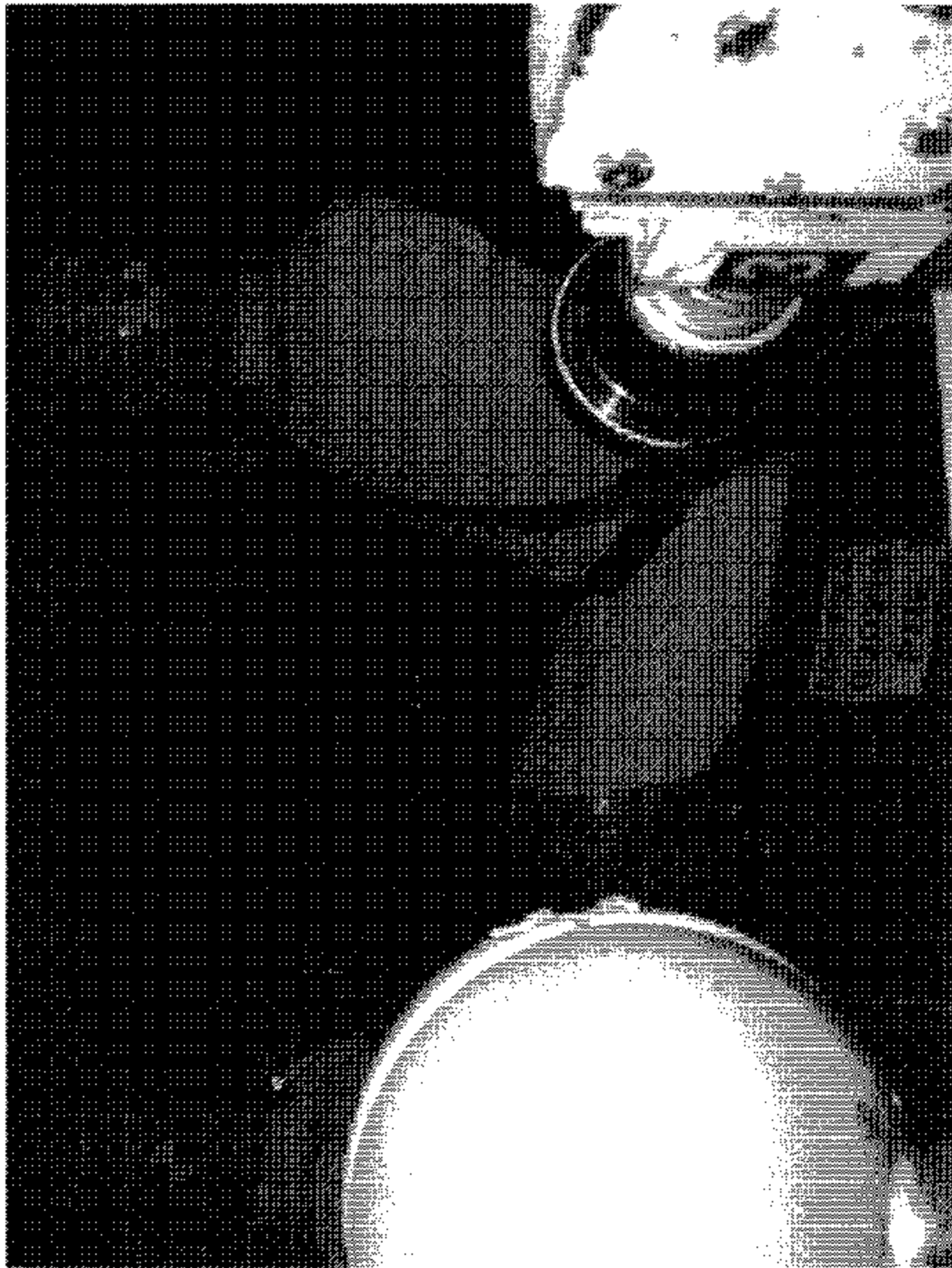


Figure A-20 Pre-Test Left Occupant Compartment View of Rear SID

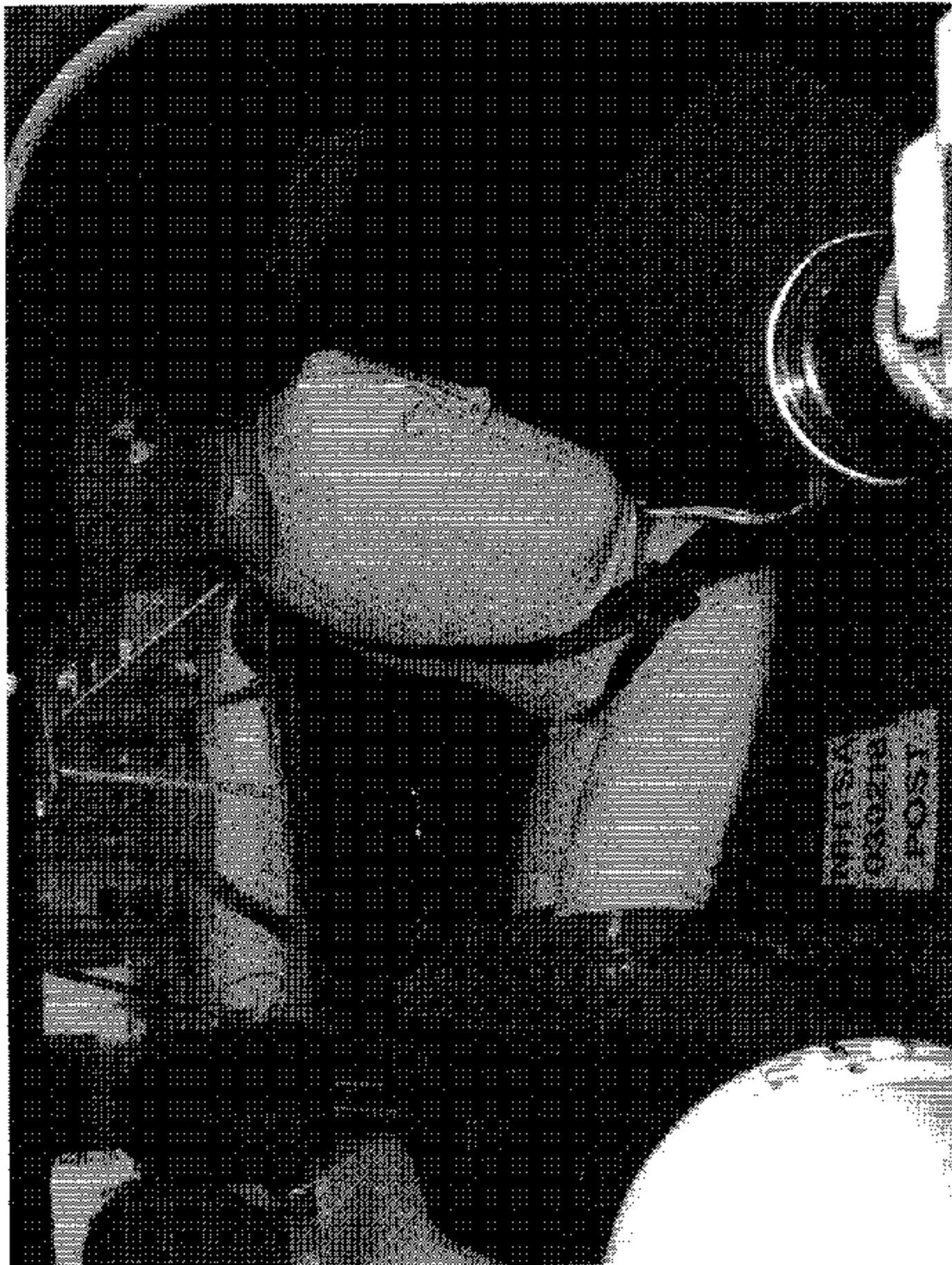


Figure A-21 Post-Test Left Occupant Compartment View of Rear SID

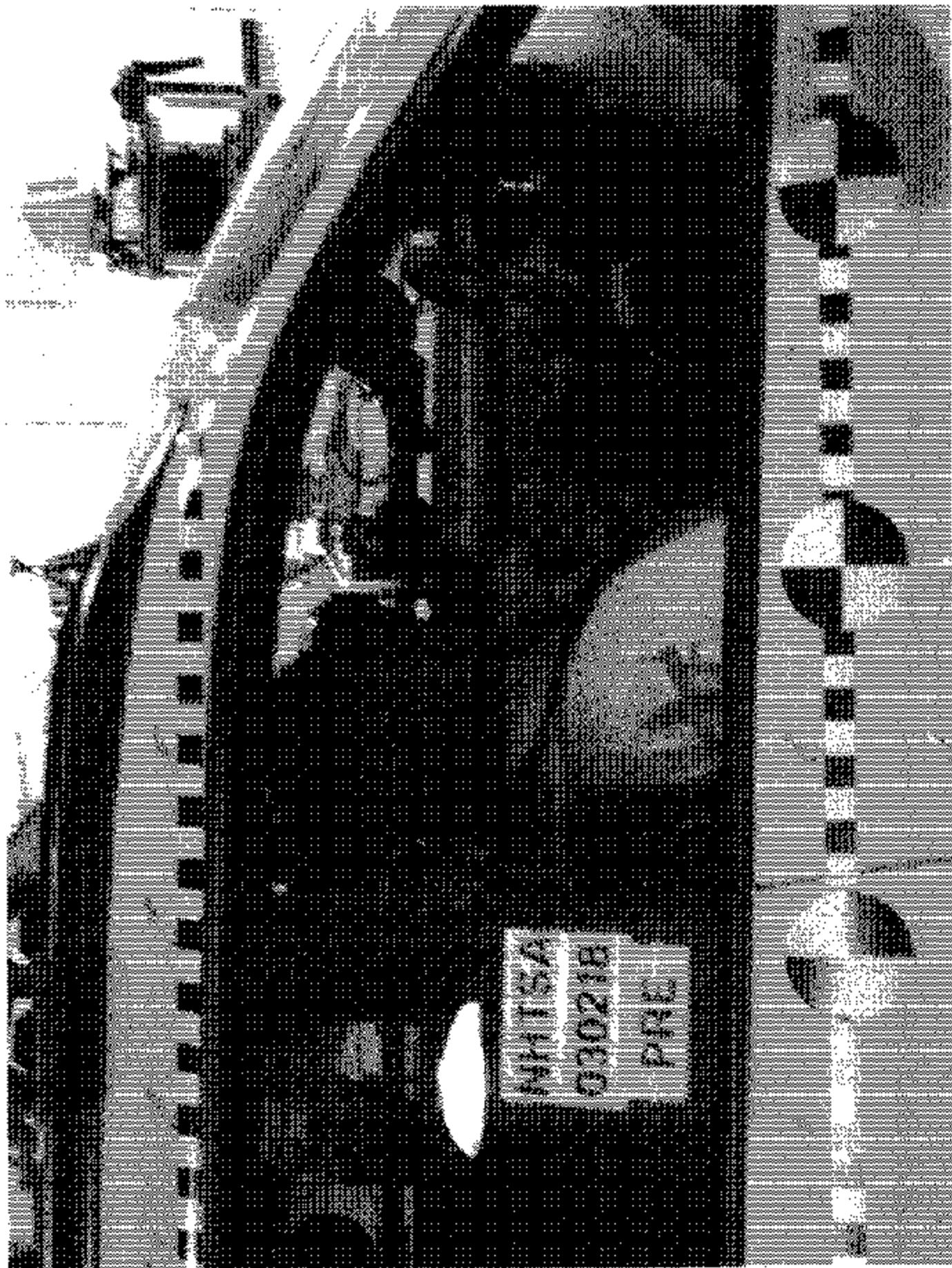


Figure A-22 Pre-Test Right View of Front SID



Figure A-23 Pre-Test Right View of Front SID and Belt Position



Figure A-24 Pre-Test Right View of Front SID and Door Clearance



Figure A-25 Post-Test Right View of Front SID and Door Clearance



Figure A-26 Post-Test Right View of Rear SID

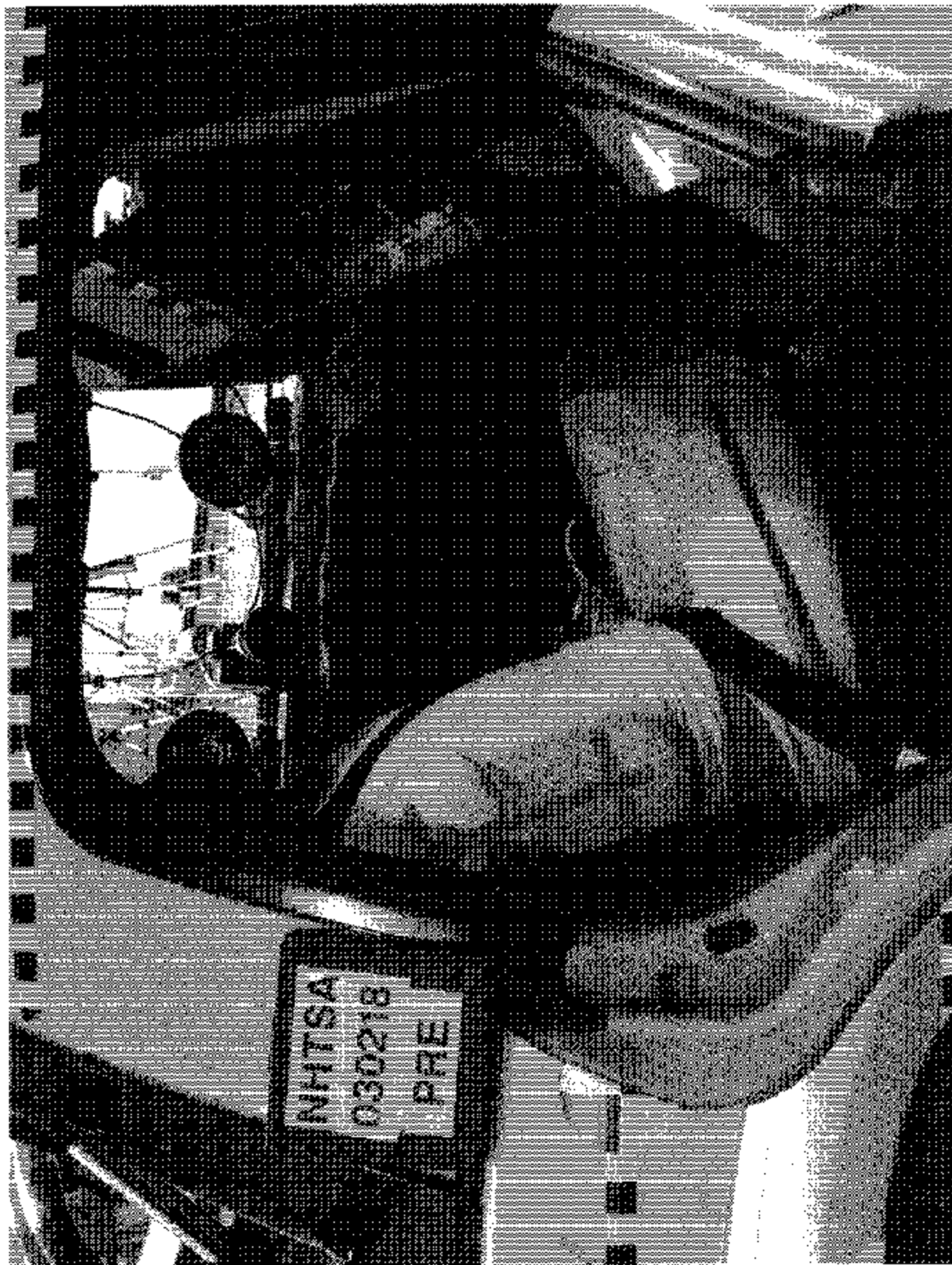


Figure A-27 Pre-Test Right View of Rear SID and Belt Position



Figure A-28 Pre-Test Right View of Rear SID and Door Clearance



Figure A-29 Post-Test Right View of Rear SID and Door Clearance

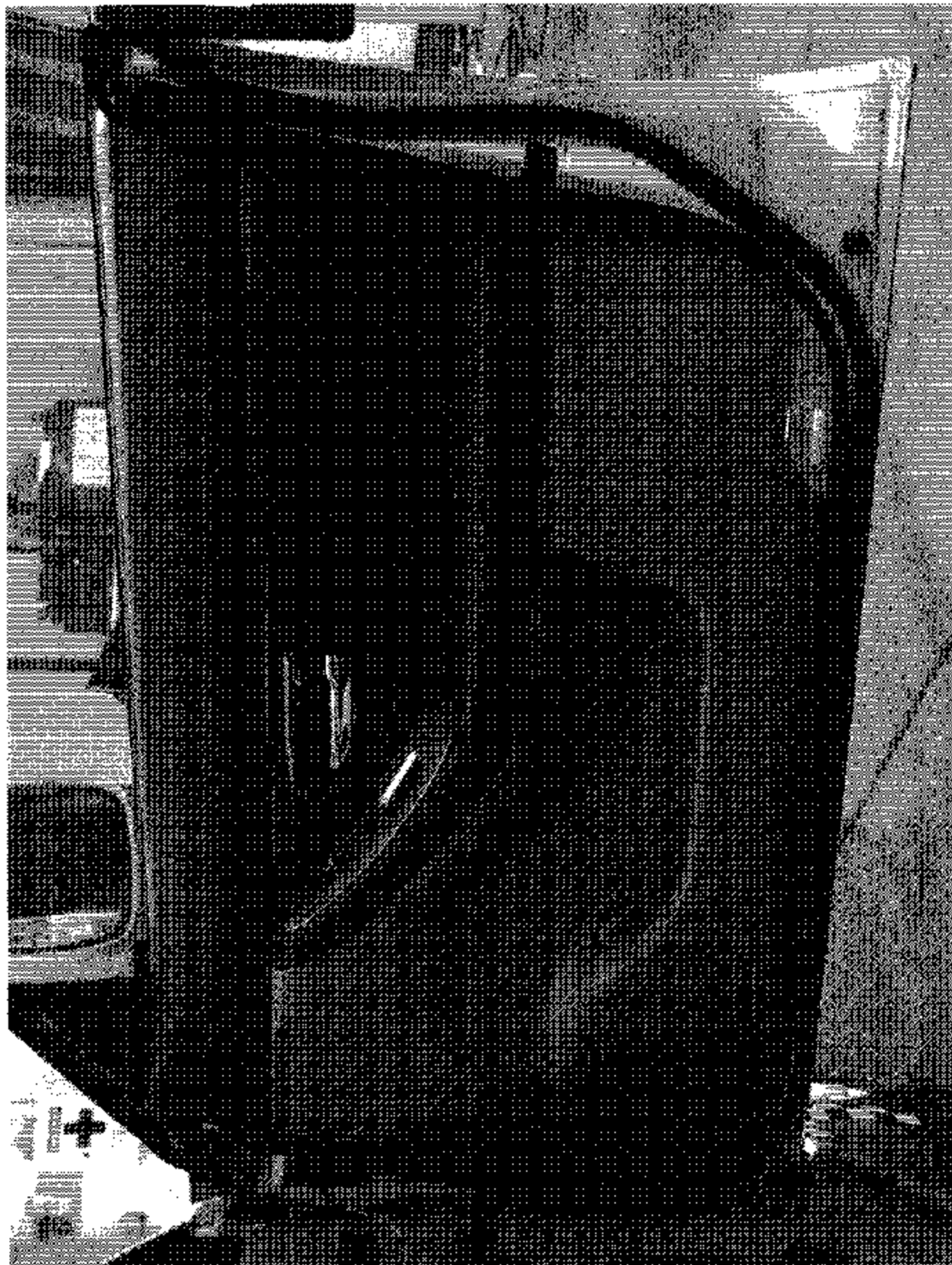


Figure A-30 Pre-Test Interior of Front Door

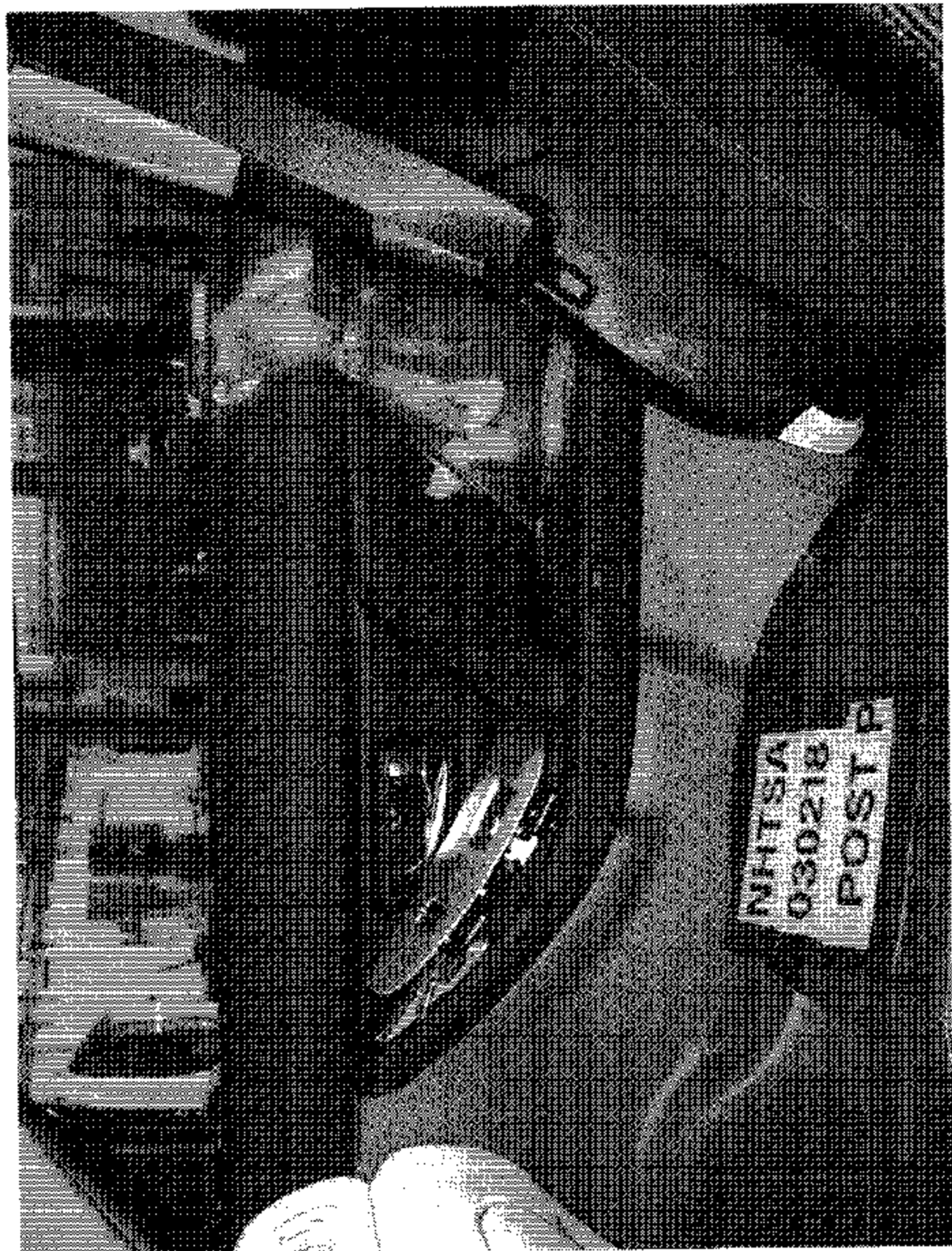


Figure A-31 Post-Test Interior of Front Door Showing SID Impact Locations



Figure A-32 Post-Test Front SID Contact - View 1



Figure A-33 Post-Test Front SID Contact - View 2



Figure A-34 Post-Test Front SID Contact - View 3



Figure A-35 Pre-Test Interior of Rear Panel

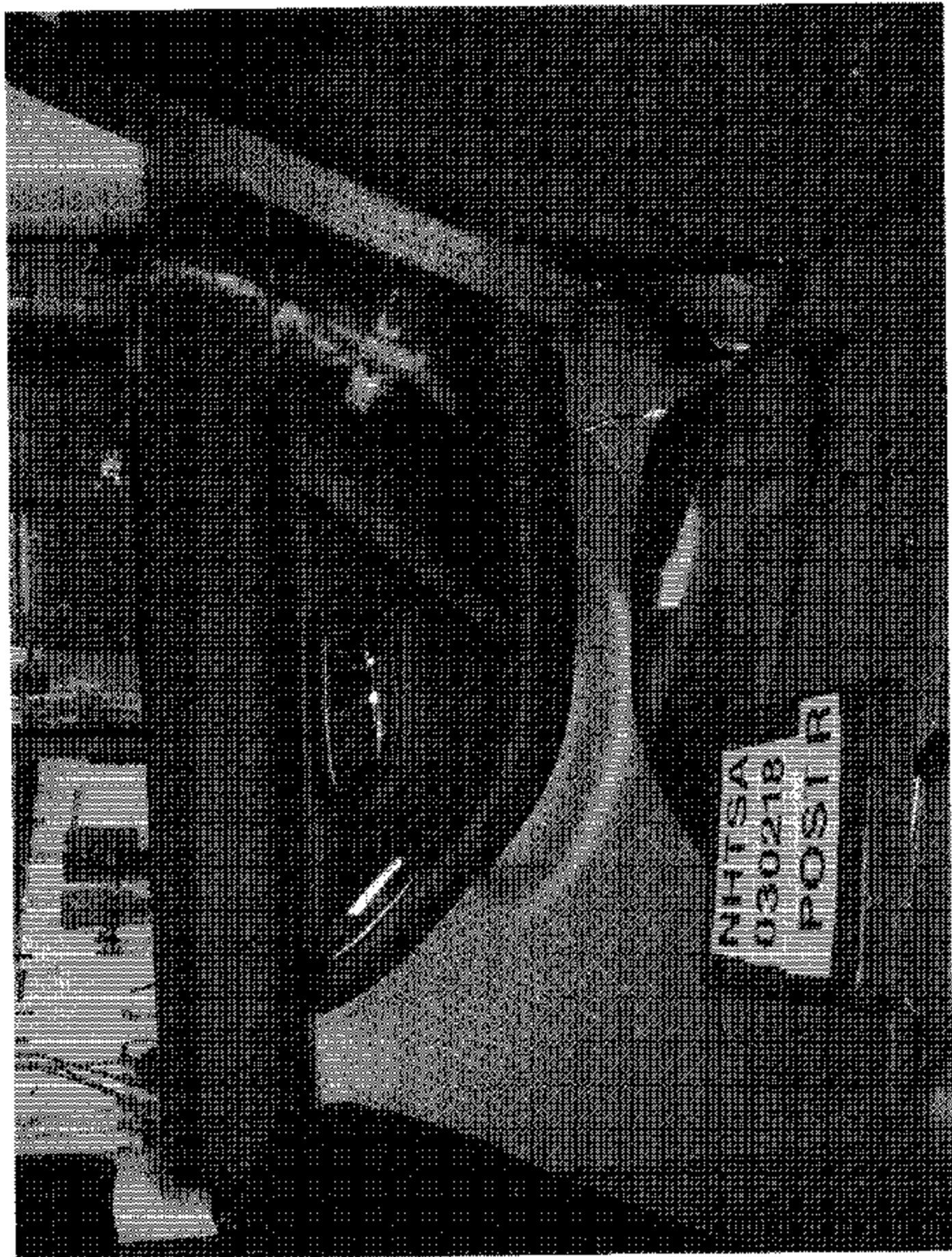


Figure A-36 Post-Test Interior of Rear Panel Showing SID Impact Locations



Figure A-37 Post-Test Rear SID Contact - View 1

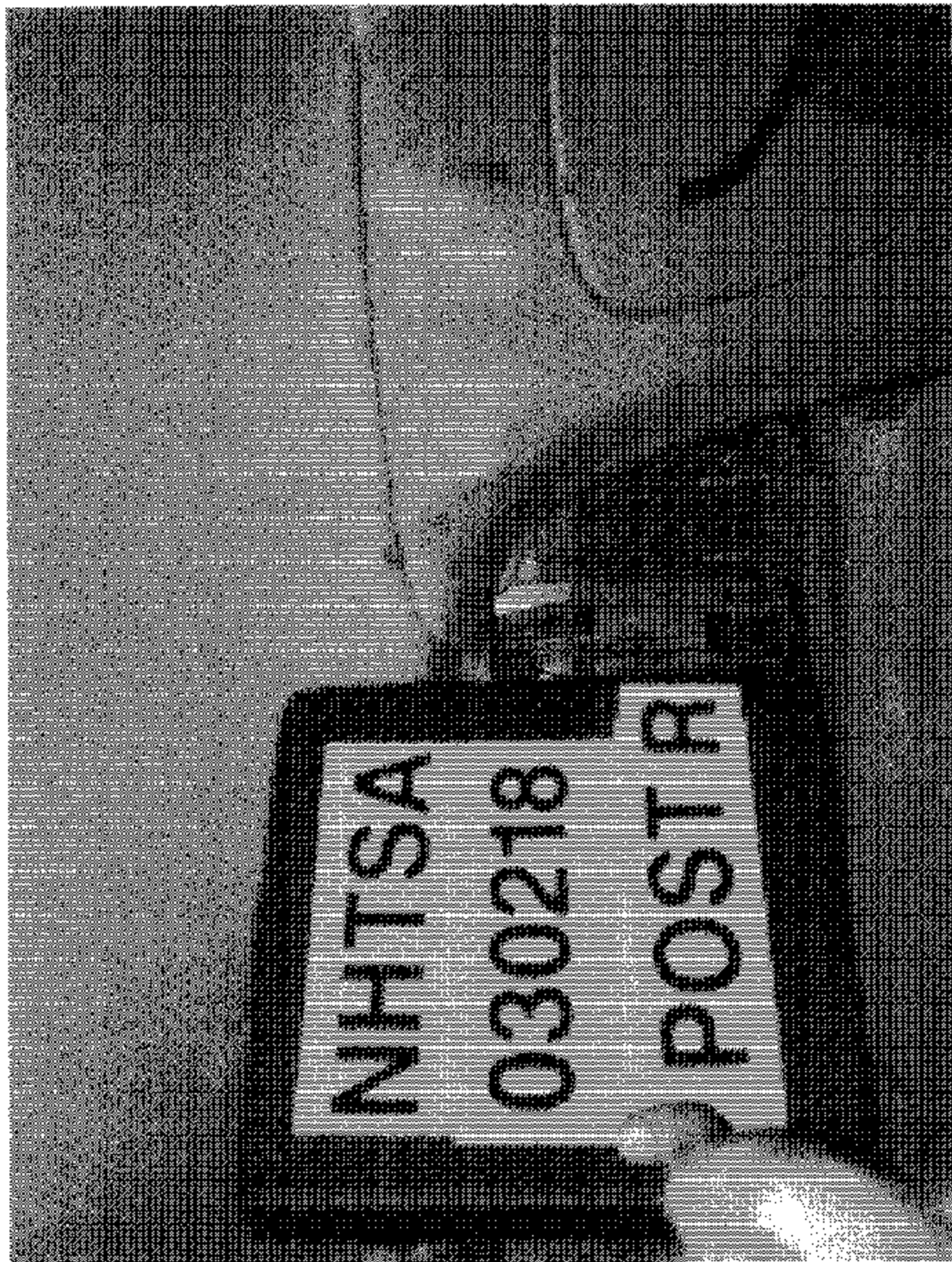


Figure A-38 Post-Test Rear SID Contact - View 2



Figure A-39 Post-Test Rear SID Contact - View 3

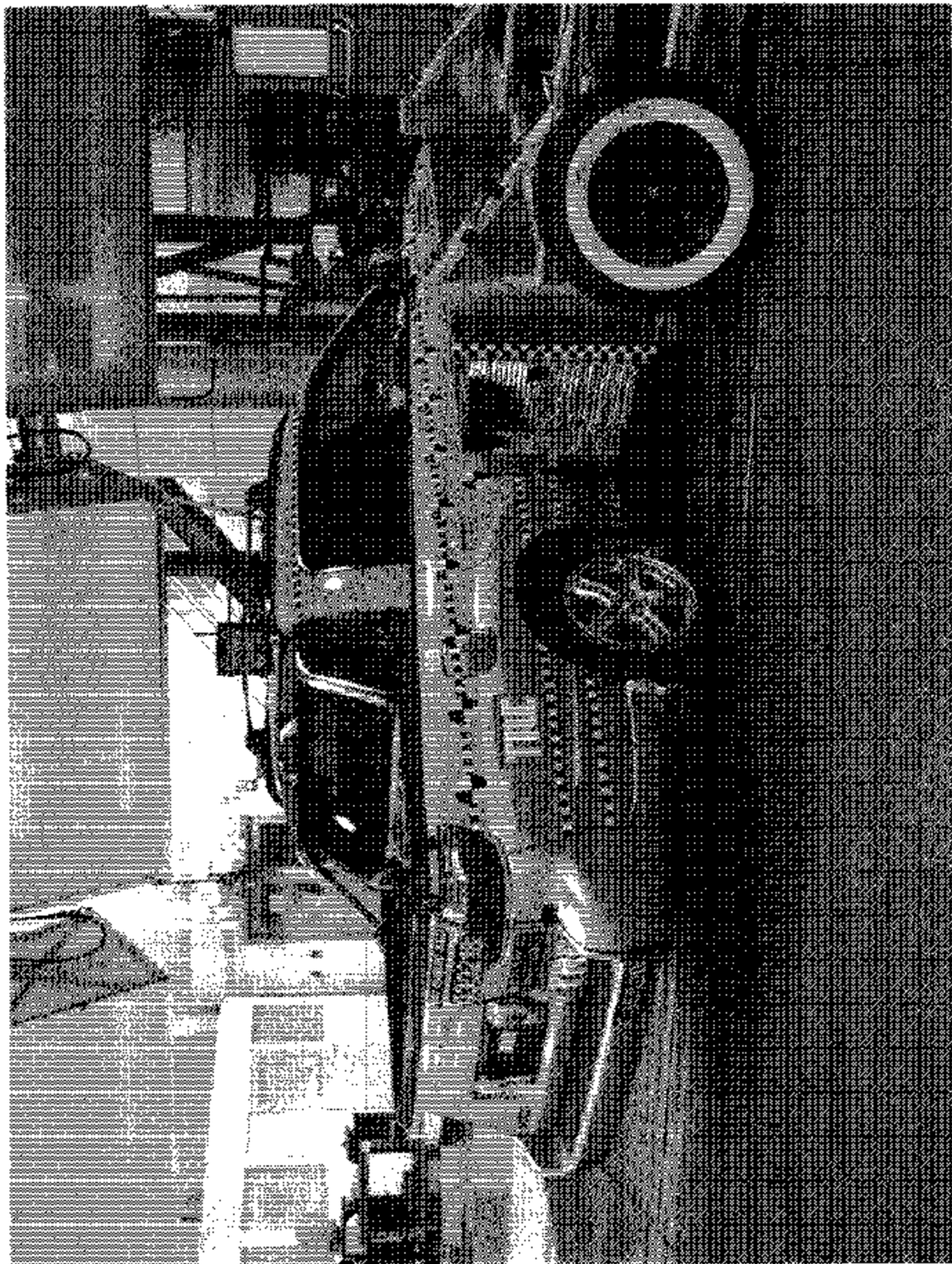


Figure A-40 Pre-Test Left Side View of MDB with Impactor Face in Position



Figure A-41 Pre-Test Primary Impact Point View



Figure A-42 Post-Test Primary Impact Point View



Figure A-43 Pre-Test Right Side View of MDB with Impactor Face in Position



Figure A-44 Pre-Test Secondary Impact Point View

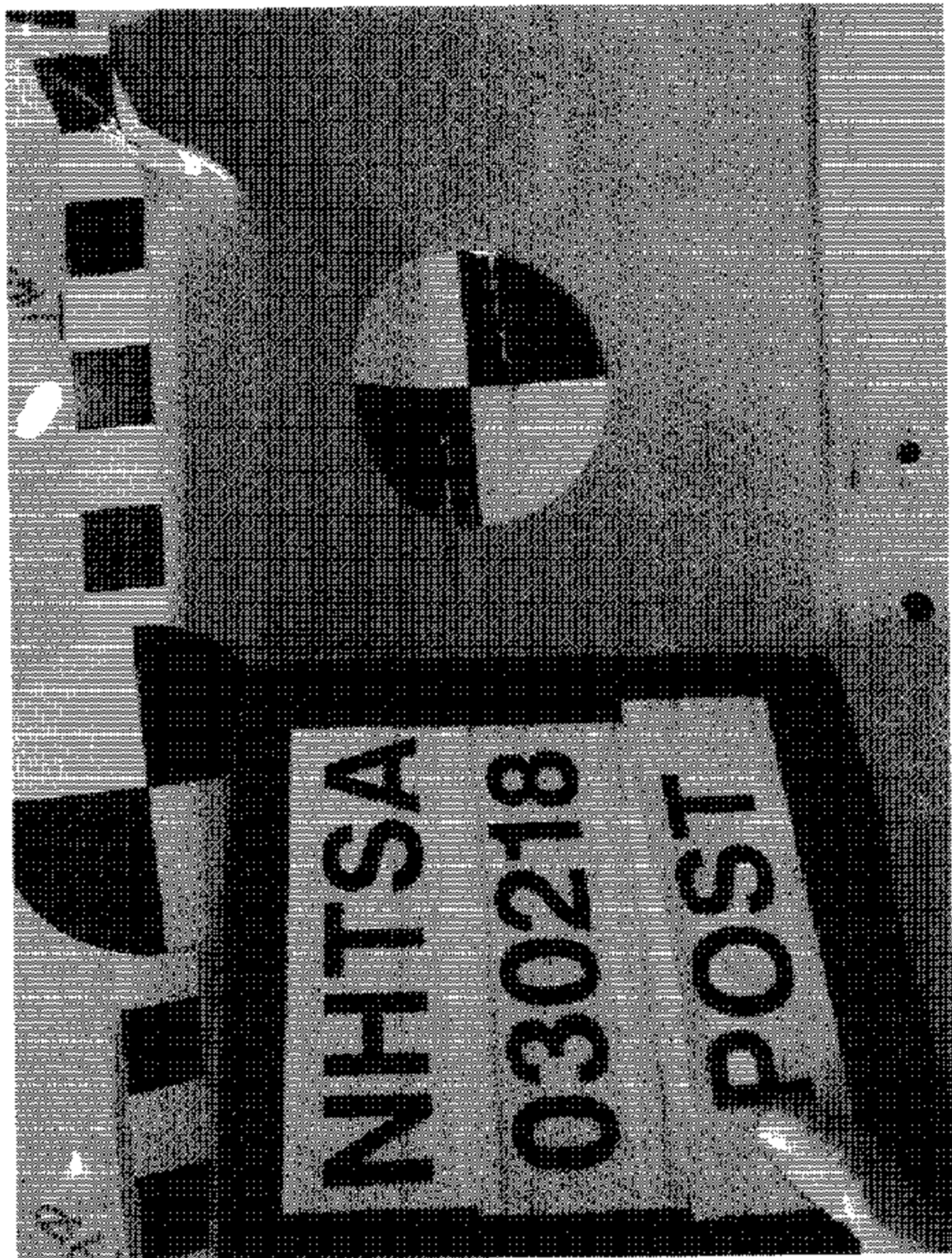
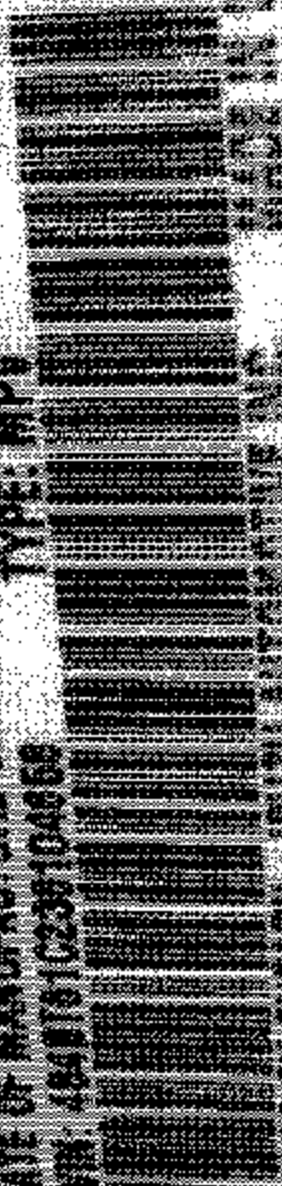


Figure A-45 Post-Test Secondary Impact Point View

DATE: 10/02
 2345LB(1064KG)
 2210LB(1002KG) R 2345LB(1064KG)
 GAWT F 2210LB(1002KG) R 2345LB(1064KG)
 THIS VEHICLE CONFORMS TO ALL APPLICABLE FEDERAL MOTOR VEHICLE
 SAFETY AND THEFT PREVENTION STANDARDS IN EFFECT ON
 THE DATE OF MANUFACTURE SHOWN ABOVE.
 TYPE: MPV



MADE IN U.S.A.

MANUFACTURED BY SUBARU - SUBARU AUTOMOTIVE INC.

0035500

Figure A-46 Pre-Test Vehicle Certification Label View

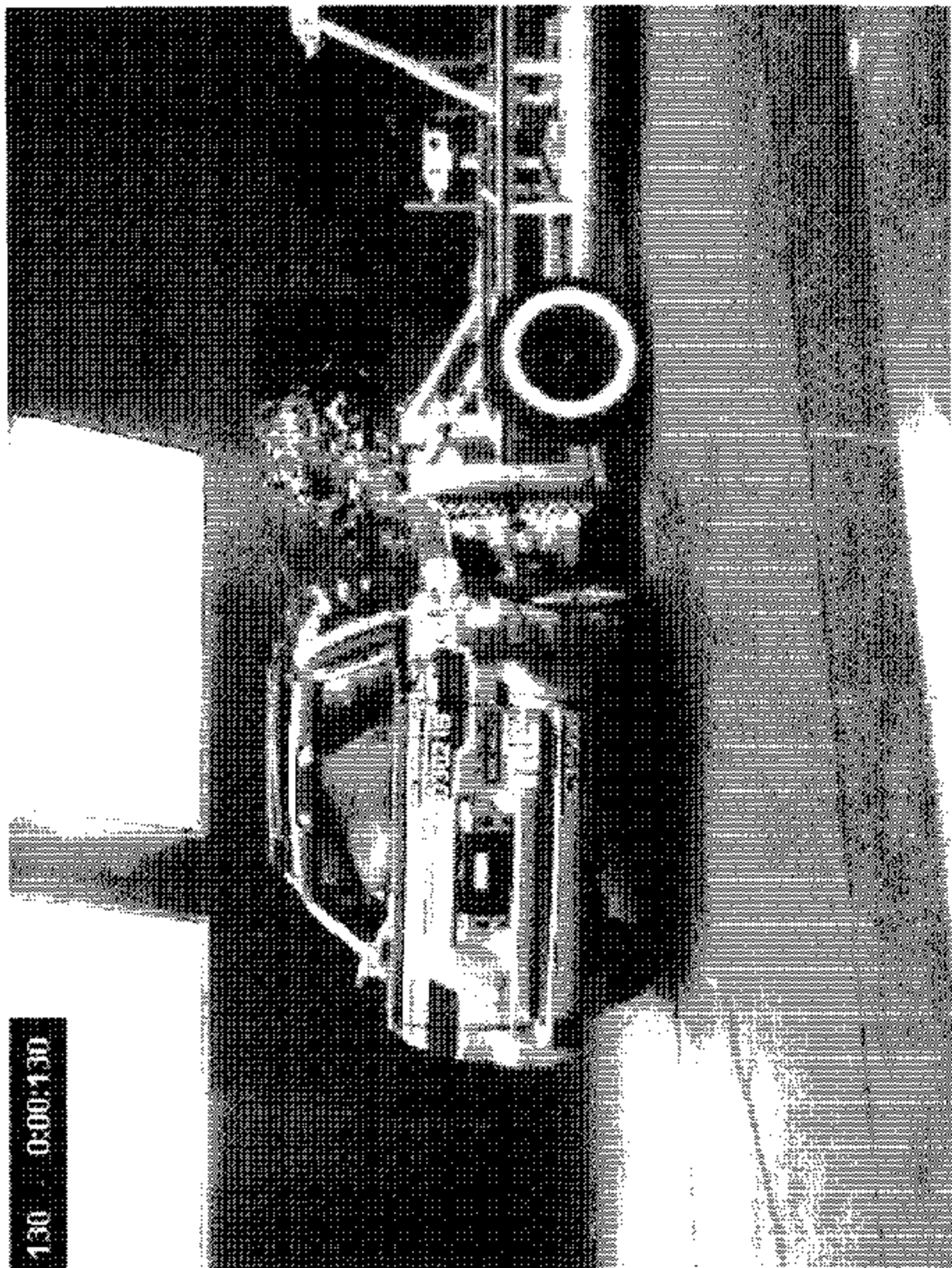


Figure A-48 Impact Event

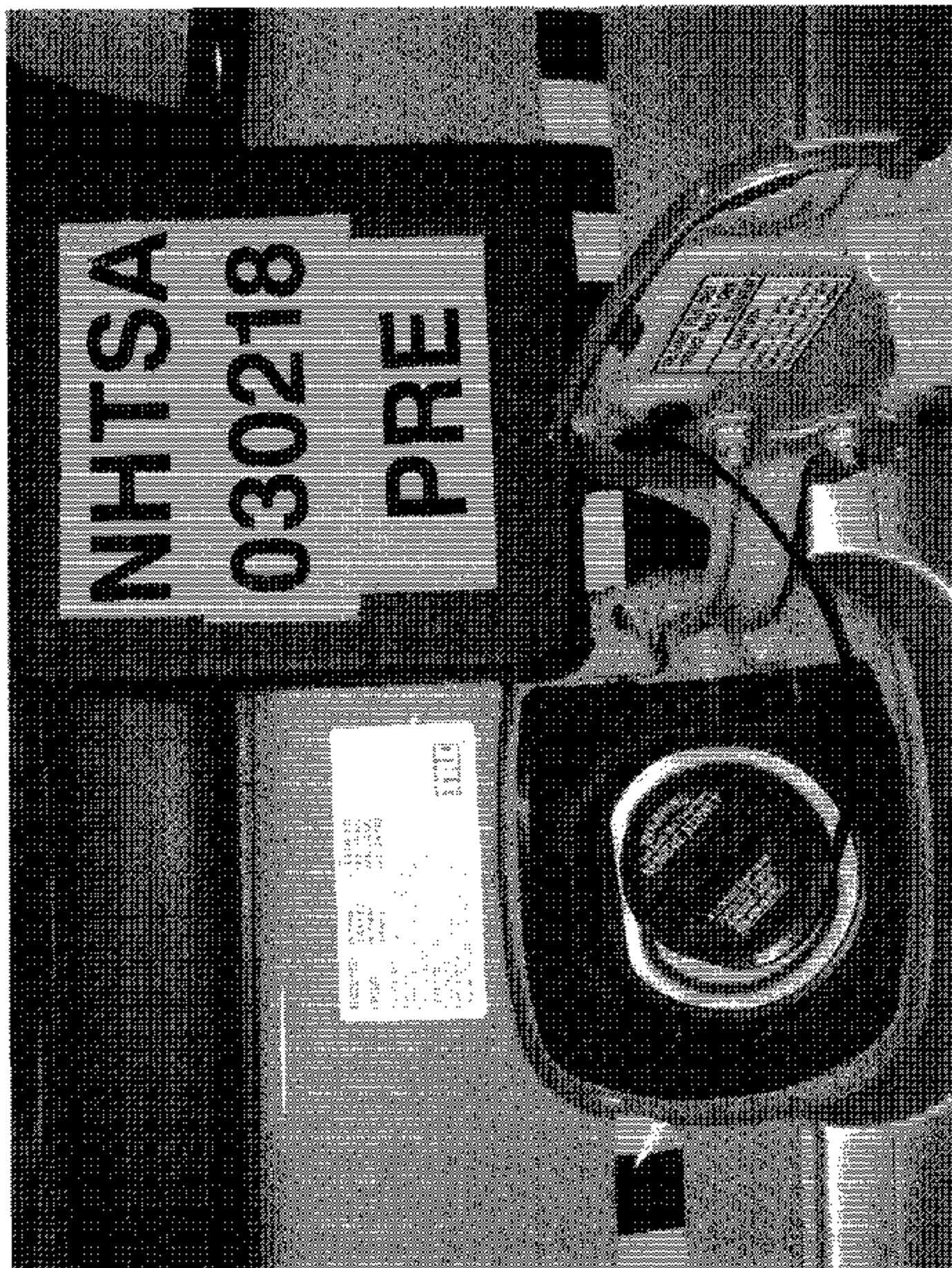


Figure A-49 Pre-Test Fuel Cap

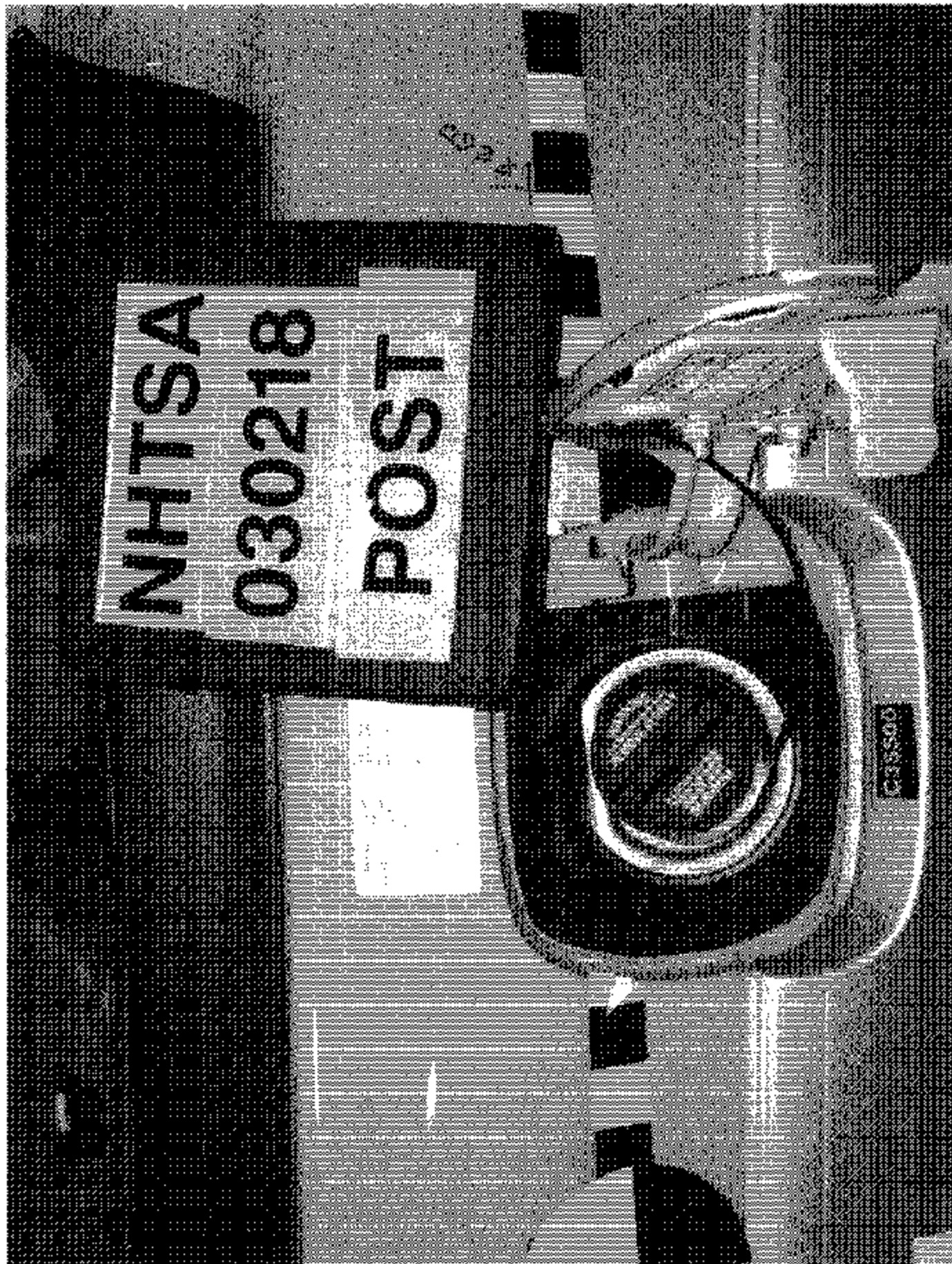


Figure A-50 Post-Test Fuel Cap

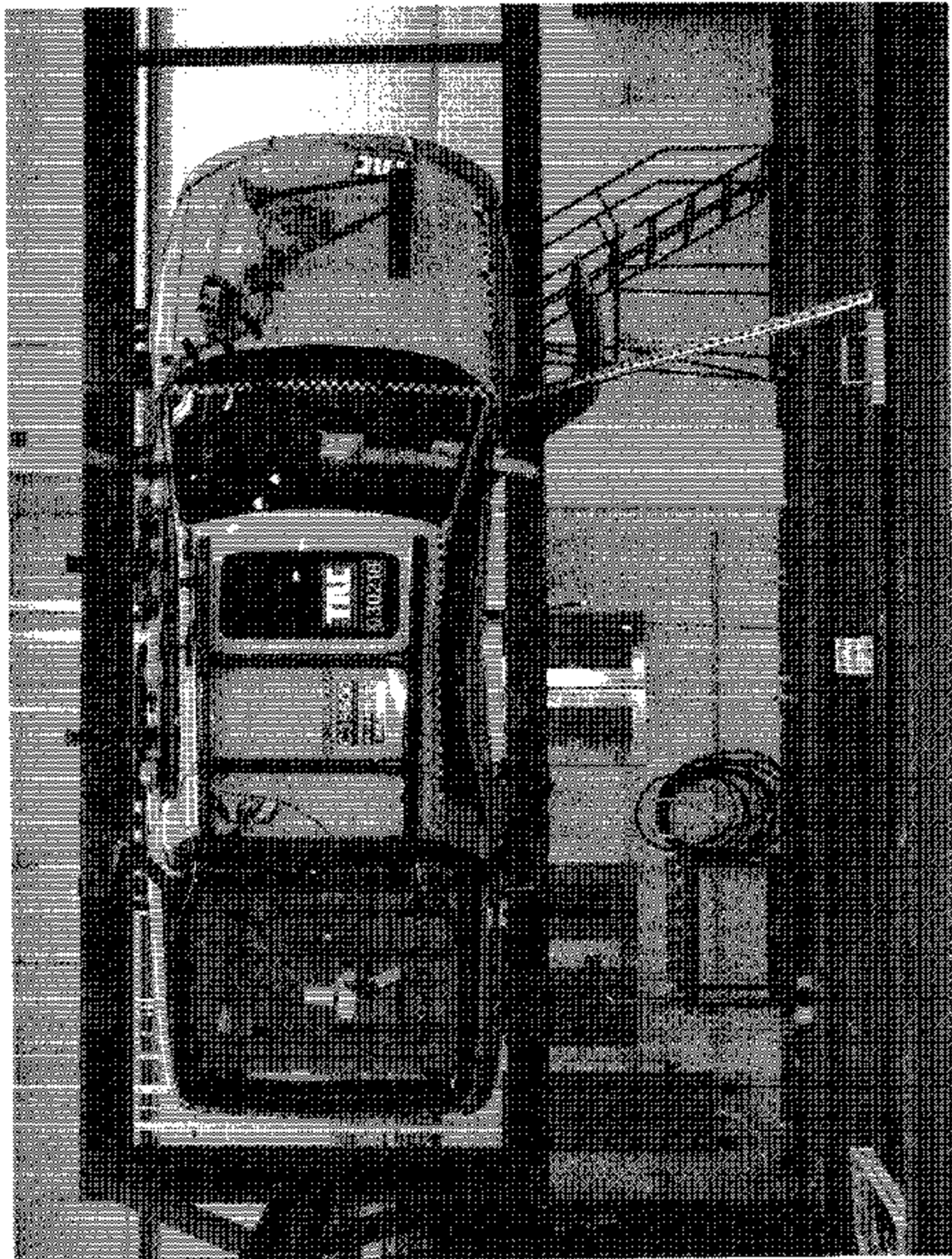


Figure A-51 FMVSS 301 Rollover View at 90°

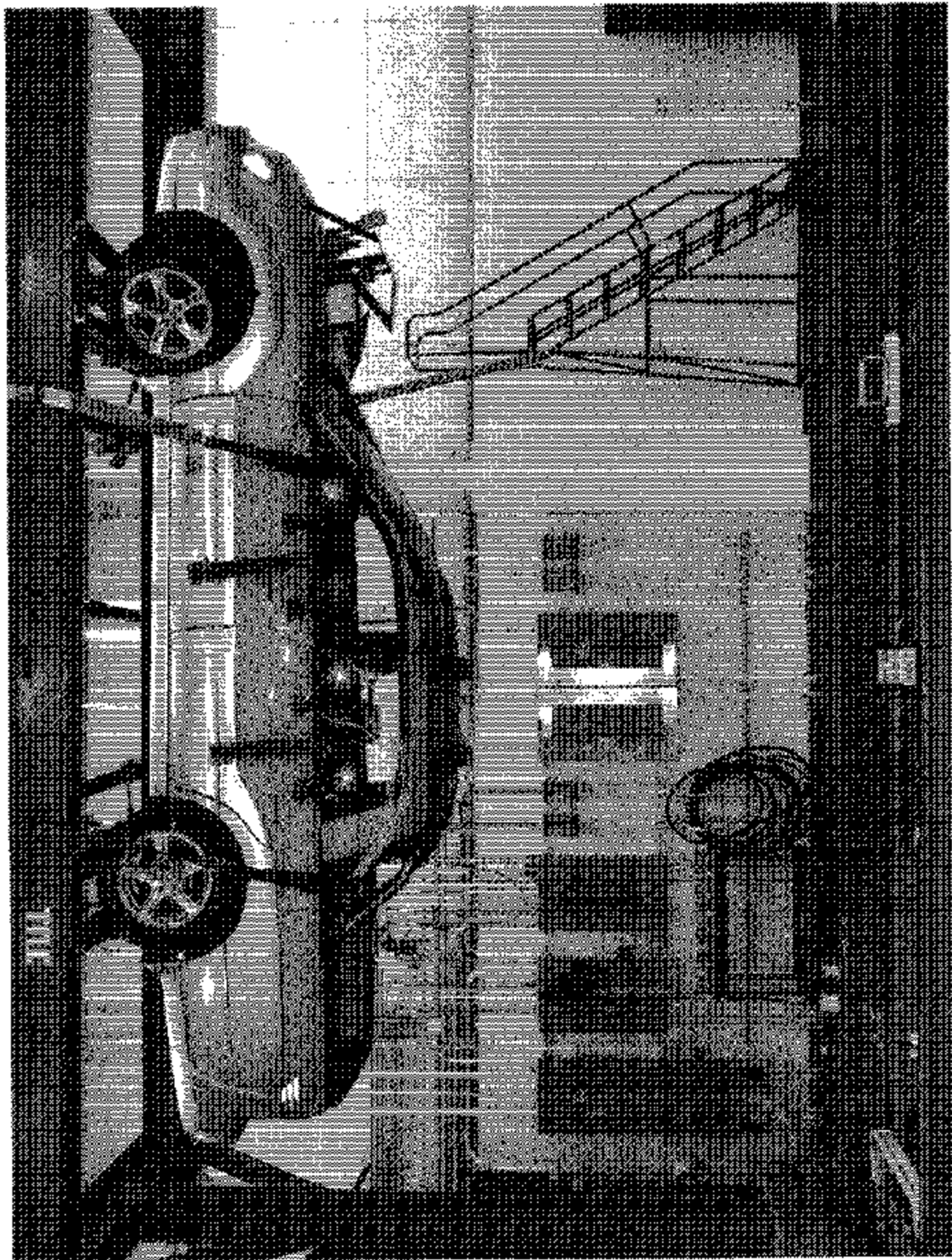


Figure A-52 FMVSS 301 Rollover View at 180°

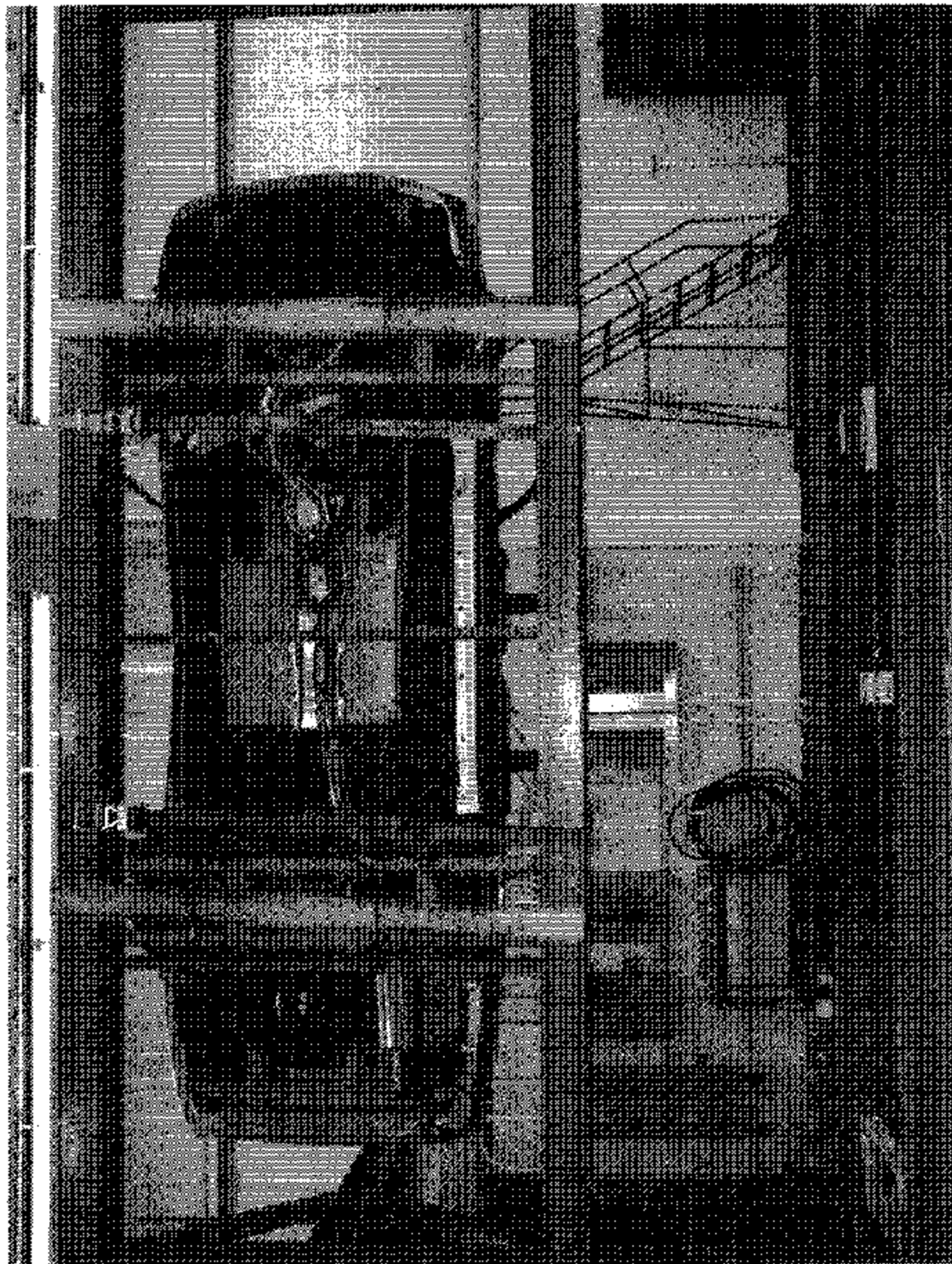


Figure A-53 FMVSS 301 Rollover View at 270°

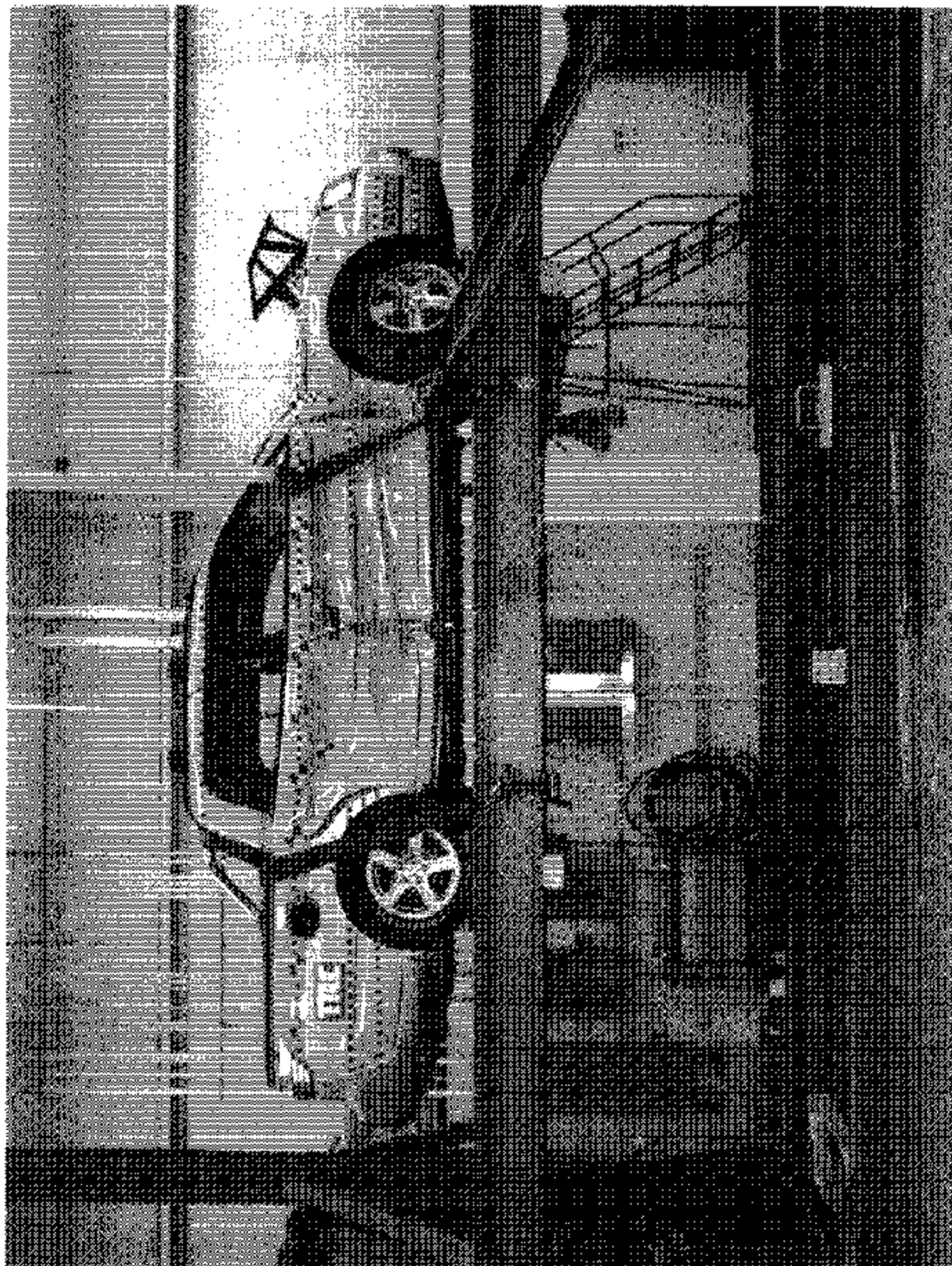


Figure A-54 FMVSS 301 Rollover View at 360°

Appendix B

Data Plots

Table of Data Plots

Right Front Passenger and Right Rear Passenger Dummy Instrumentation Plots

Acceleration Data - Filter Class 1000

Integration Data - Filter Class 180

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
1	Right Front Passenger Upper Rib Y-Axis Acceleration	B-9
2	Right Front Passenger Upper Rib Y-Axis Velocity	B-10
3	Right Front Passenger Lower Rib Y-Axis Acceleration	B-11
4	Right Front Passenger Lower Rib Y-Axis Velocity	B-12
5	Right Front Passenger Lower Spine Y-Axis Acceleration	B-13
6	Right Front Passenger Lower Spine Y-Axis Velocity	B-14
7	Right Front Passenger Pelvis Y-Axis Acceleration	B-15
8	Right Front Passenger Pelvis Y-Axis Velocity	B-16
9	Right Rear Passenger Upper Rib Y-Axis Acceleration	B-17
10	Right Rear Passenger Upper Rib Y-Axis Velocity	B-18
11	Right Rear Passenger Lower Rib Y-Axis Acceleration	B-19
12	Right Rear Passenger Lower Rib Y-Axis Velocity	B-20
13	Right Rear Passenger Lower Spine Y-Axis Acceleration	B-21
14	Right Rear Passenger Lower Spine Y-Axis Velocity	B-22
15	Right Rear Passenger Pelvis Y-Axis Acceleration	B-23
16	Right Rear Passenger Pelvis Y-Axis Velocity	B-24

Right Front Passenger and Right Rear Passenger Dummy Instrumentation Plots

Acceleration Data - Filter Class 1000 - Redundant

Integration Data - Filter Class 1000 - Redundant

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
17	Right Front Passenger Upper Rib Y-Axis Redundant Acceleration	B-26
18	Right Front Passenger Upper Rib Y-Axis Redundant Velocity	B-27
19	Right Front Passenger Lower Rib Y-Axis Redundant Acceleration	B-28
20	Right Front Passenger Lower Rib Y-Axis Redundant Velocity	B-29
21	Right Front Passenger Lower Spine Y-Axis Redundant Acceleration	B-30
22	Right Front Passenger Lower Spine Y-Axis Redundant Velocity	B-31
23	Right Front Passenger Pelvis Y-Axis Redundant Acceleration	B-32

Table of Data Plots (Continued)

Right Front Passenger and Right Rear Passenger Dummy Instrumentation Plots (Continued)

Acceleration Data - Filter Class 1000 - Redundant

Integration Data - Filter Class 180 - Redundant

24	Right Front Passenger Pelvis Y-Axis Redundant Velocity	B-33
25	Right Rear Passenger Upper Rib Y-Axis Redundant Acceleration	B-34
26	Right Rear Passenger Upper Rib Y-Axis Redundant Velocity	B-35
27	Right Rear Passenger Lower Rib Y-Axis Redundant Acceleration	B-36
28	Right Rear Passenger Lower Rib Y-Axis Redundant Velocity	B-37
29	Right Rear Passenger Lower Spine Y-Axis Redundant Acceleration	B-38
30	Right Rear Passenger Lower Spine Y-Axis Redundant Velocity	B-39
31	Right Rear Passenger Pelvis Y-Axis Redundant Acceleration	B-40
32	Right Rear Passenger Pelvis Y-Axis Redundant Velocity	B-41

Test Vehicle Instrumentation Plots

Acceleration Data - Filter Class 60

Integration Data - Filter Class 180

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
33	Left Side Sill At Front Seat X-Axis Acceleration	B-43
34	Left Side Sill At Front Seat X-Axis Velocity	B-44
35	Left Side Sill At Front Seat Y-Axis Acceleration	B-45
36	Left Side Sill At Front Seat Y-Axis Velocity	B-46
37	Left Side Sill At Front Seat Z-Axis Acceleration	B-47
38	Left Side Sill At Front Seat Z-Axis Velocity	B-48
39	Left Side Sill At Front Seat Resultant Acceleration	B-49
40	Left Side Sill At Rear Seat X-Axis Acceleration	B-50
41	Left Side Sill At Rear Seat X-Axis Velocity	B-51
42	Left Side Sill At Rear Seat Y-Axis Acceleration	B-52
43	Left Side Sill At Rear Seat Y-Axis Velocity	B-53
44	Left Side Sill At Rear Seat Z-Axis Acceleration	B-54
45	Left Side Sill At Rear Seat Z-Axis Velocity	B-55
46	Left Side Sill At Rear Seat Resultant Acceleration	B-56
47	Rear Floorpan Above Axle X-Axis Acceleration	B-57
48	Rear Floorpan Above Axle X-Axis Velocity	B-58

Table of Data Plots (Continued)
 Test Vehicle Instrumentation Plots (Continued)
 Acceleration Data - Filter Class 60
 Integration Data - Filter Class 180

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
49	Rear Floorpan Above Axle Y-Axis Acceleration	B-59
50	Rear Floorpan Above Axle Y-Axis Velocity	B-60
51	Rear Floorpan Above Axle Z-Axis Acceleration	B-61
52	Rear Floorpan Above Axle Z-Axis Velocity	B-62
53	Rear Floorpan Above Axle Resultant Acceleration	B-63
54	Right Side Sill At Front Seat Y-Axis Acceleration	B-64
55	Right Side Sill At Front Seat Y-Axis Velocity	B-65
56	Right Side Sill At Front Seat Y-Axis Displacement	B-66
57	Right Side Sill At Rear Seat Y-Axis Acceleration	B-67
58	Right Side Sill At Rear Seat Y-Axis Velocity	B-68
59	Right Side Sill At Rear Seat Y-Axis Displacement	B-69
60	Right Front Door on Centerline Y-Axis Acceleration	B-70
61	Right Front Door on Centerline Y-Axis Velocity	B-71
62	Right Front Door on Centerline Y-Axis Displacement	B-72
63	Left Rear Occupant Compartment Y-Axis Acceleration	B-73
64	Left Rear Occupant Compartment Y-Axis Velocity	B-74
65	Left Rear Occupant Compartment Y-Axis Displacement	B-75
66	Mid-Rear of Right Front Door Y-Axis Acceleration	B-76
67	Mid-Rear of Right Front Door Y-Axis Velocity	B-77
68	Mid-Rear of Right Front Door Y-Axis Displacement	B-78
69	Right Front Door Upper Centerline Y-Axis Acceleration	B-79
70	Right Front Door Upper Centerline Y-Axis Velocity	B-80
71	Right Front Door Upper Centerline Y-Axis Displacement	B-81
72	Mid-Rear of Right Rear Door Y-Axis Acceleration	B-82
73	Mid-Rear of Right Rear Door Y-Axis Velocity	B-83
74	Mid-Rear of Right Rear Door Y-Axis Displacement	B-84
75	Right Rear Door Upper Centerline Y-Axis Acceleration	B-85
76	Right Rear Door Upper Centerline Y-Axis Velocity	B-86

Table of Data Plots (Continued)
Test Vehicle Instrumentation Plots (Continued)
Acceleration Data - Filter Class 60
Integration Data - Filter Class 180

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
77	Right Rear Door Upper Centerline Y-Axis Displacement	B-87
78	Right Lower A-Post Y-Axis Acceleration	B-88
79	Right Lower A-Post Y-Axis Velocity	B-89
80	Right Middle A-Post Y-Axis Acceleration	B-90
81	Right Middle A-Post Y-Axis Velocity	B-91
82	Right Lower B-Post Y-Axis Acceleration	B-92
83	Right Lower B-Post Y-Axis Velocity	B-93
84	Right Middle B-Post Y-Axis Acceleration	B-94
85	Right Middle B-Post Y-Axis Velocity	B-95
86	Right Front Seat Track Y-Axis Acceleration	B-96
87	Right Front Seat Track Y-Axis Velocity	B-97
88	Right Rear Seat Track Y-Axis Acceleration	B-98
89	Right Rear Seat Track Y-Axis Velocity	B-99
90	Vehicle Center Of Gravity X-Axis Acceleration	B-100
91	Vehicle Center Of Gravity X-Axis Velocity	B-101
92	Vehicle Center Of Gravity Y-Axis Acceleration	B-102
93	Vehicle Center Of Gravity Y-Axis Velocity	B-103
94	Vehicle Center Of Gravity Z-Axis Acceleration	B-104
95	Vehicle Center Of Gravity Z-Axis Velocity	B-105
96	Vehicle Center Of Gravity Resultant Acceleration	B-106

MDB Instrumentation Plots
Acceleration Data - Filter Class 60
Integration Data - Filter Class 180

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
97	MDB Center Of Gravity X-Axis Acceleration	B-108
97	MDB Center Of Gravity X-Axis Velocity	B-109
99	MDB Center Of Gravity Y-Axis Acceleration	B-110
100	MDB Center Of Gravity Y-Axis Velocity	B-111

Table of Data Plots (Continued)

MDB Instrumentation Plots (Continued)

Acceleration Data - Filter Class 60

Integration Data - Filter Class 180

101	MDB Center Of Gravity Z-Axis Acceleration	B-112
102	MDB Center Of Gravity Z-Axis Velocity	B-113
103	MDB Center Of Gravity Resultant Acceleration	B-114
104	MDB Right Rear X-Axis Acceleration	B-115
105	MDB Right Rear X-Axis Velocity	B-116
106	MDB Right Rear Y-Axis Acceleration	B-117
107	MDB Right Rear Y-Axis Velocity	B-118
108	MDB Right Side Contact Switch	B-119
109	MDB Left Side Contact Switch	B-120

Right Front Passenger and Right Rear Passenger Dummy Instrumentation Plots

Acceleration Data - FIR Filtered

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
110	Right Front Passenger Upper Rib Y-Axis Acceleration	B-122
111	Right Front Passenger Lower Rib Y-Axis Acceleration	B-123
112	Right Front Passenger Lower Spine Y-Axis Acceleration	B-124
113	Right Front Passenger Pelvis Y-Axis Acceleration	B-125
114	Right Rear Passenger Upper Rib Y-Axis Acceleration	B-126
115	Right Rear Passenger Lower Rib Y-Axis Acceleration	B-127
116	Right Rear Passenger Lower Spine Y-Axis Acceleration	B-128
117	Right Rear Passenger Pelvis Y-Axis Acceleration	B-129

Table of Data Plots (Continued)

Right Front Passenger and Right Rear Passenger Dummy Instrumentation Plots
Acceleration Data - FIR Filtered - Redundant

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
118	Right Front Passenger Upper Rib Y-Axis Redundant Acceleration	B-131
119	Right Front Passenger Lower Rib Y-Axis Redundant Acceleration	B-132
120	Right Front Passenger Lower Spine Y-Axis Redundant Acceleration	B-133
121	Right Front Passenger Pelvis Y-Axis Redundant Acceleration	B-134
122	Right Rear Passenger Upper Rib Y-Axis Redundant Acceleration	B-135
123	Right Rear Passenger Lower Rib Y-Axis Redundant Acceleration	B-136
124	Right Rear Passenger Lower Spine Y-Axis Redundant Acceleration	B-137
125	Right Rear Passenger Pelvis Y-Axis Redundant Acceleration	B-138

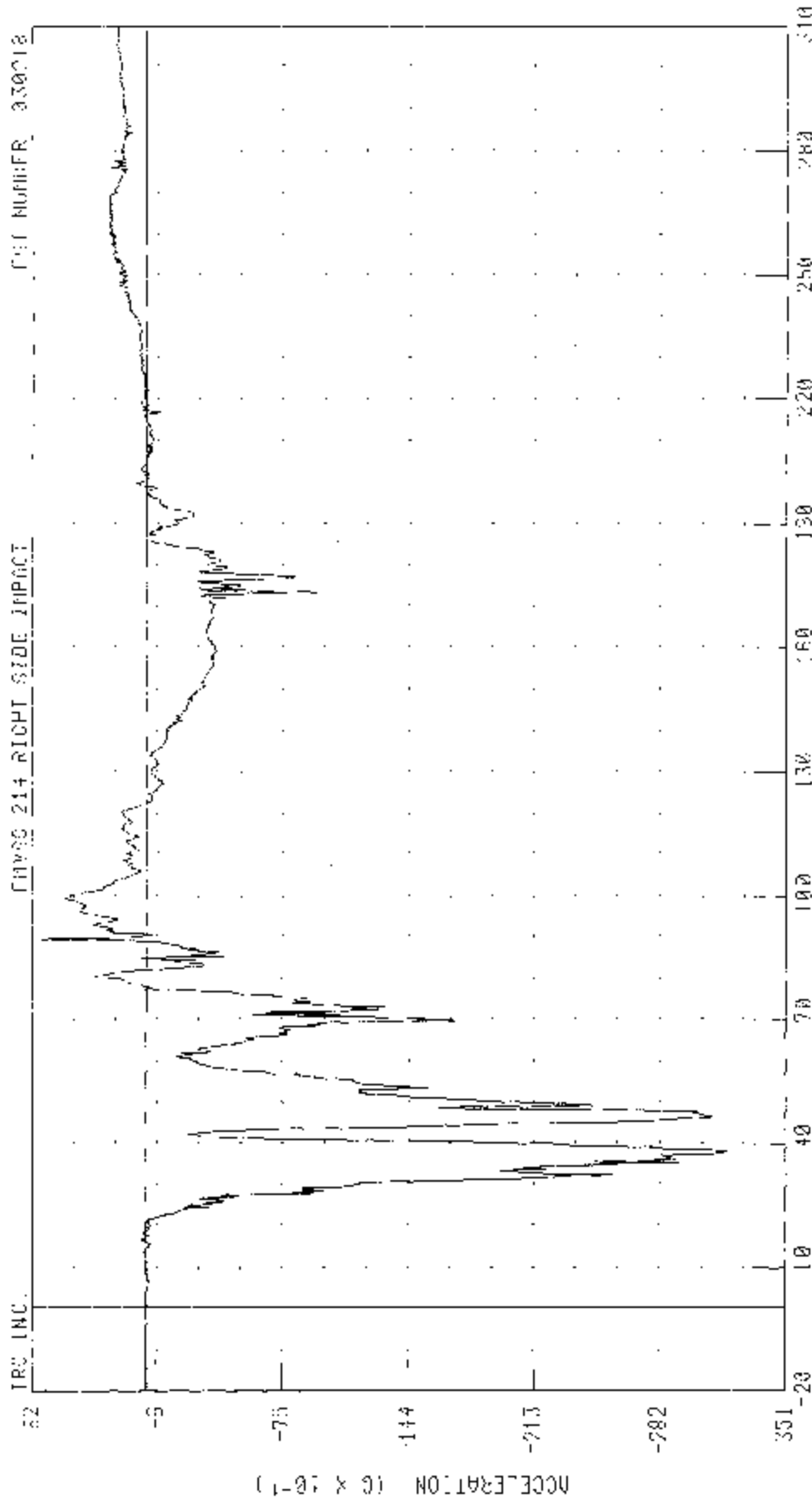
Right Front Passenger and Right Rear Passenger Dummy Instrumentation Plots

Acceleration Data - Filter Class 1000

Integration Data - Filter Class 180

48/24 4211 90 DEGREE SIDE IMPACT CRYSTAL CH FORMER L BARR, FR: INFO RIGHT SIDE OF 2043 SUENOW 5630

RIGHT FRONT PASSENGER JONES K13 Y AXIS ACCELERATION



FLAK DATA 5 75 0 9 89 28 MS; -31 00 0 0 37 76 MS

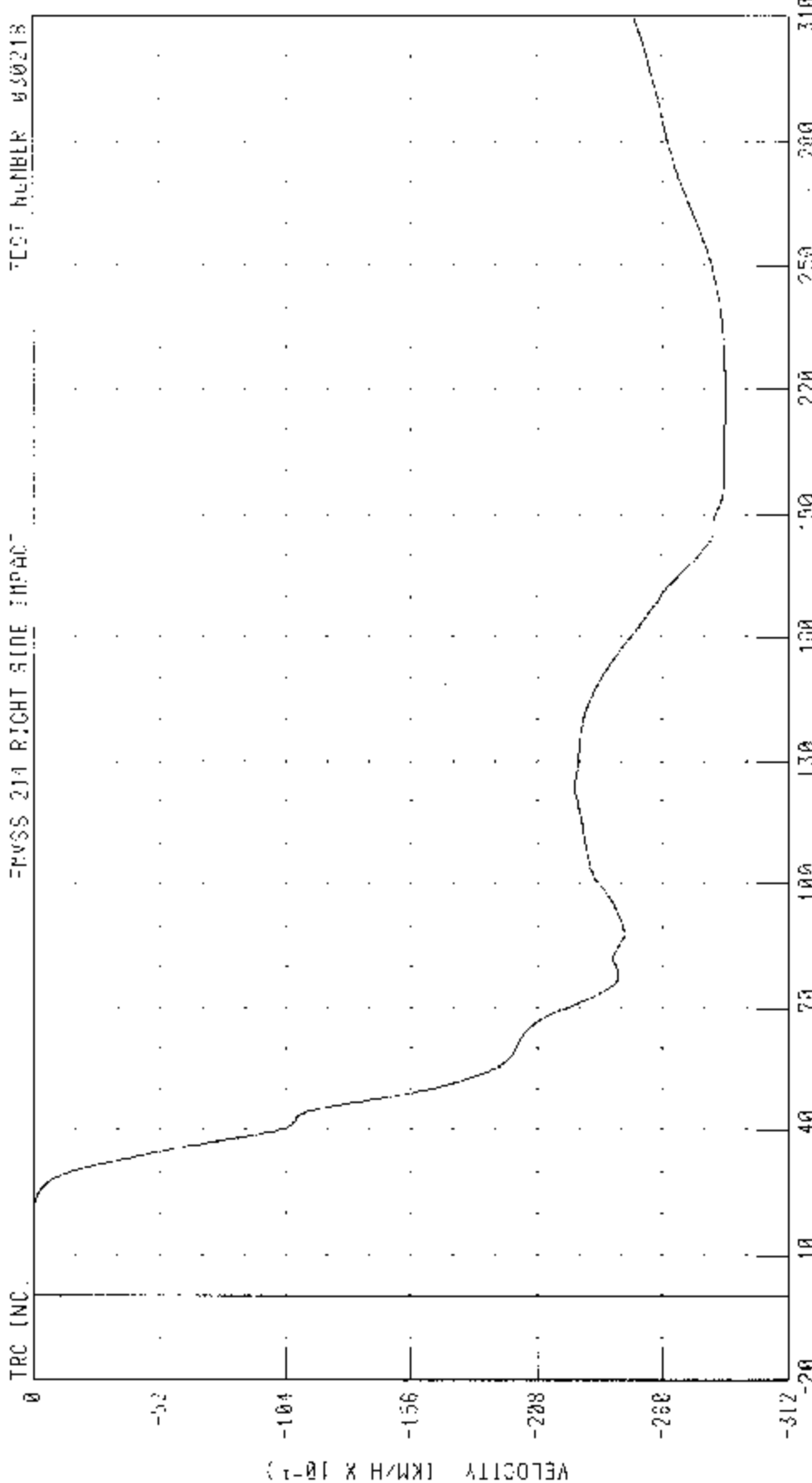
CHANNEL RURYG2 FILTER: CH CLASS 1000

48/24 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO RIGHT SIDE OF 2003 N JERARD RAMP

RIGHT FRONT PASSENGER UPPER RIB V AXIS VELOCITY

TEST NUMBER 030218

RVSS 214 RIGHT SIDE IMPACT



TIME (MS)

CHANNEL: RURYV2 FILTER: CH CLASS 180

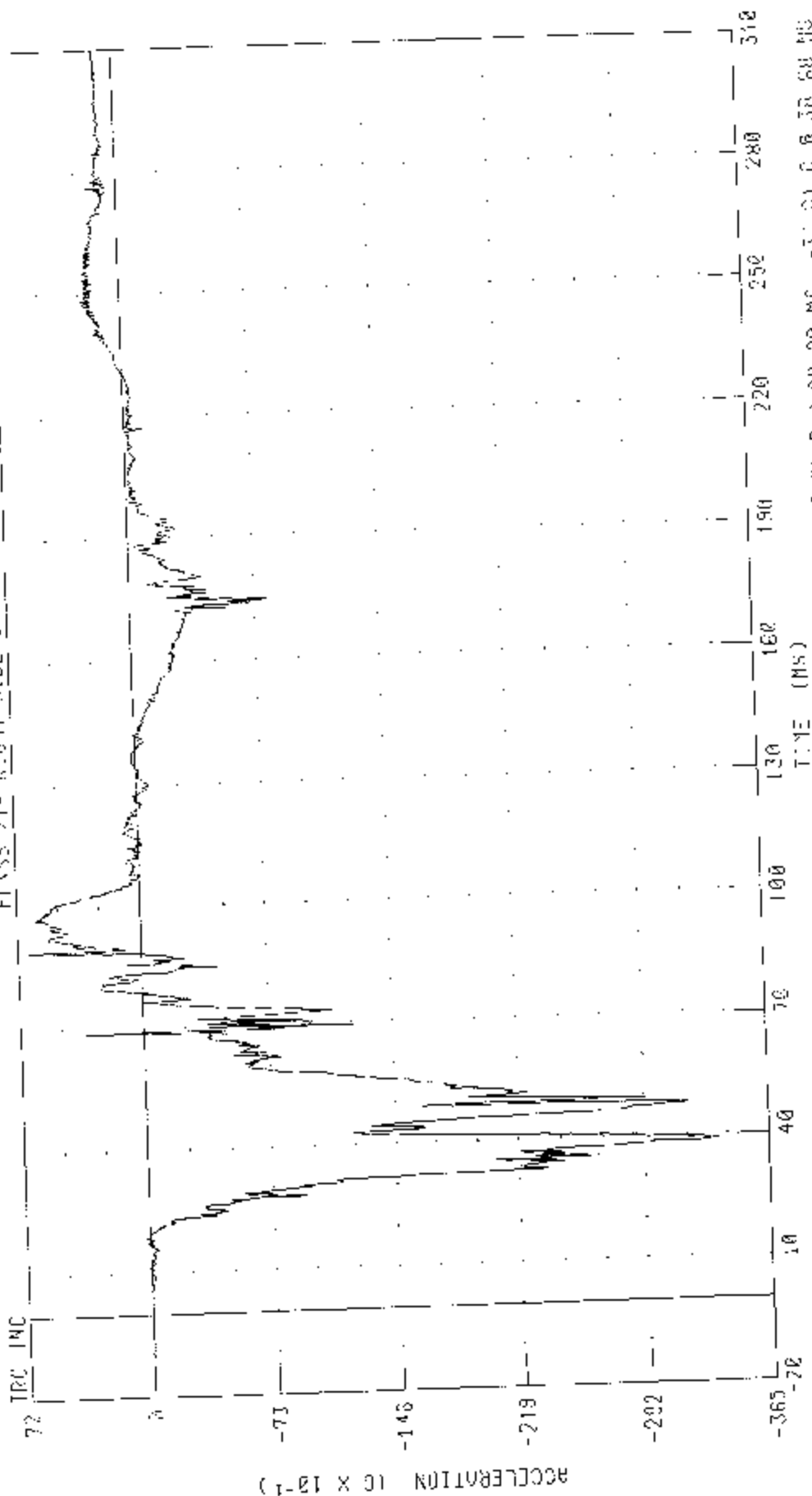
PEAK DATA: 0.00 KM/H @ 0.00 MS, 28.51 KM/H @ 217.92 MS

43/24 MPH 90 DEGREE SIDE IMPACT MOVING FRICTIONLESS BARRIER INTO TIGHT WALL OF 2003 CADILLAC P400

RIGHT FRONT PASSENGER LOWER RIB VIBRATION ACCELERATION

TEST NUMBER: 930218

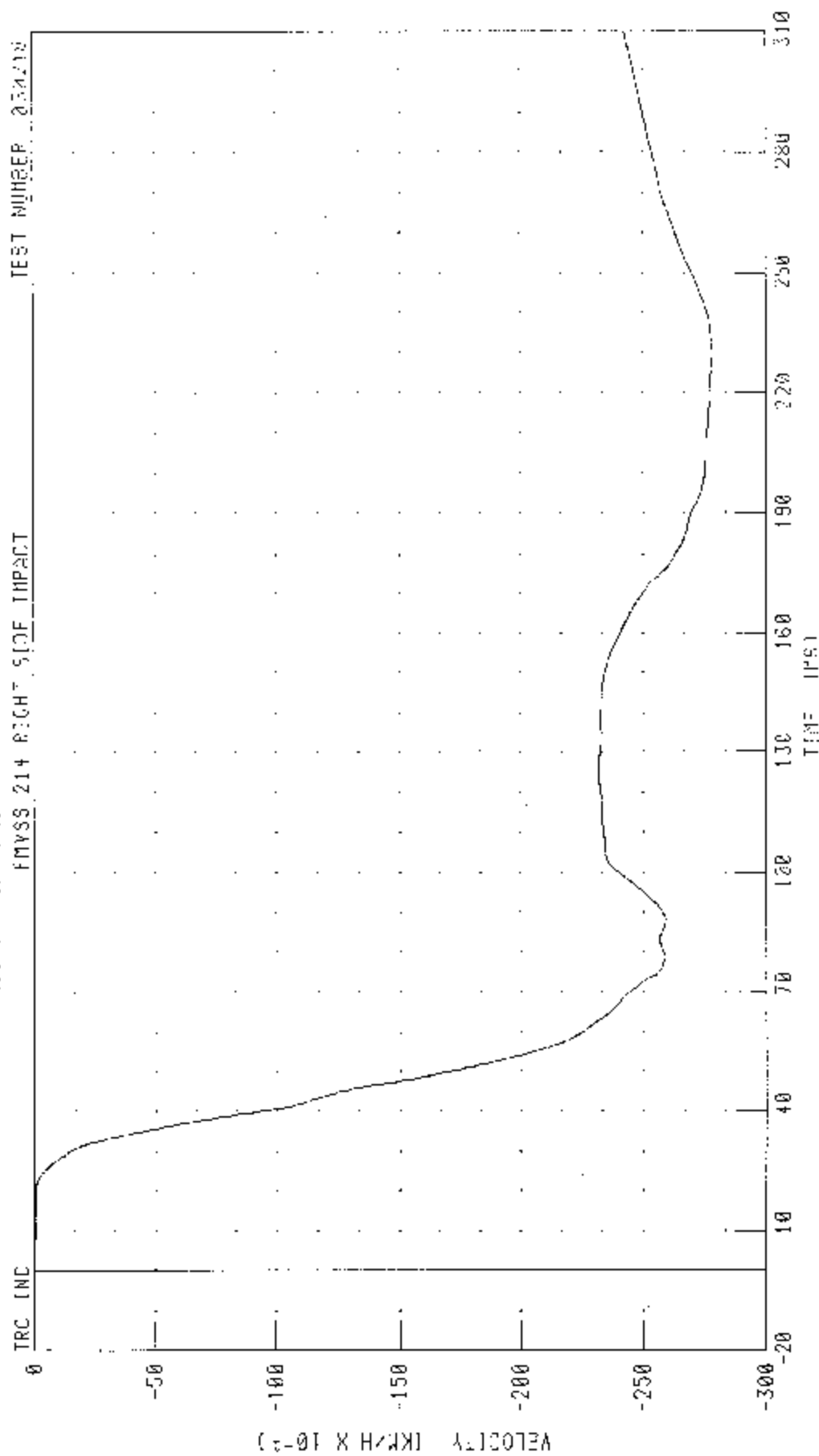
FMVSS 214 RIGHT SIDE IMPACT



PEAK DATA: 5 66 3 2 80 20 MS; -30 0 0 0 30 60 MS

CHANNEL RLR022 FILTER CH. CLASS 1000

48/24 KPH 90 DEGREE SIDE IMPACT (MOVING DETONABLE BARRIER) INTO RIGHT SIDE OF 2003 SUBARU BAJA
 RIGHT FRONT PASSENGER LOWER RIB X AXIS VELOCITY

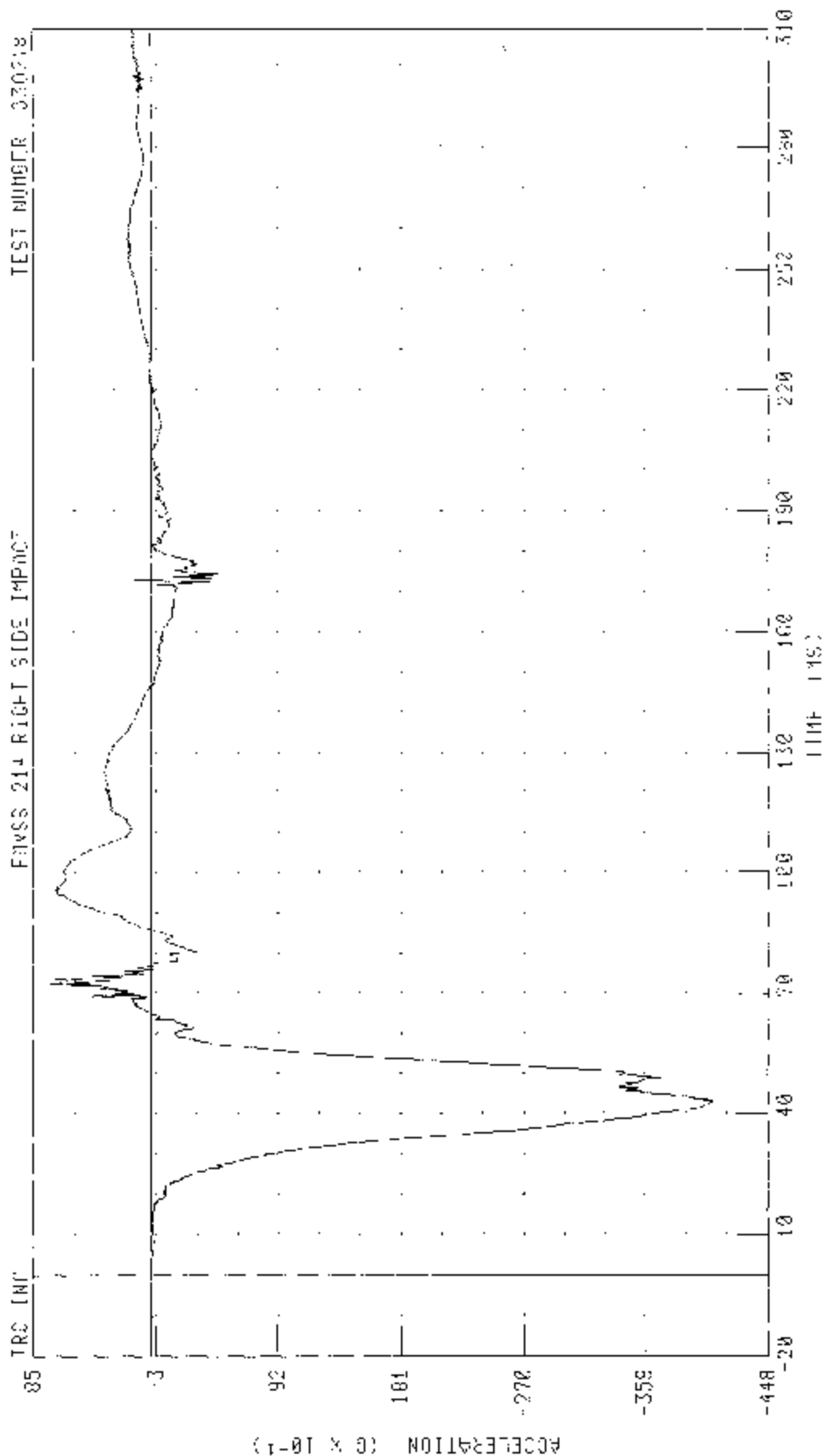


CHANNEL: RLRYV2 FILTER: CH CLASS 180

PEAK DATA 0.00 KPH 0 0.00 MS, 27.79 KPH 0 230 40 MS

40/24 MPH 90 DEGREE SIDE IMPACT MOVING DEFORMABLE BARREL INTO RIGID SIDE OF 2000 SURFET -4J0

RIGHT FRONT PASSENGER LOWER SPINE Y AXIS ACCELERATION



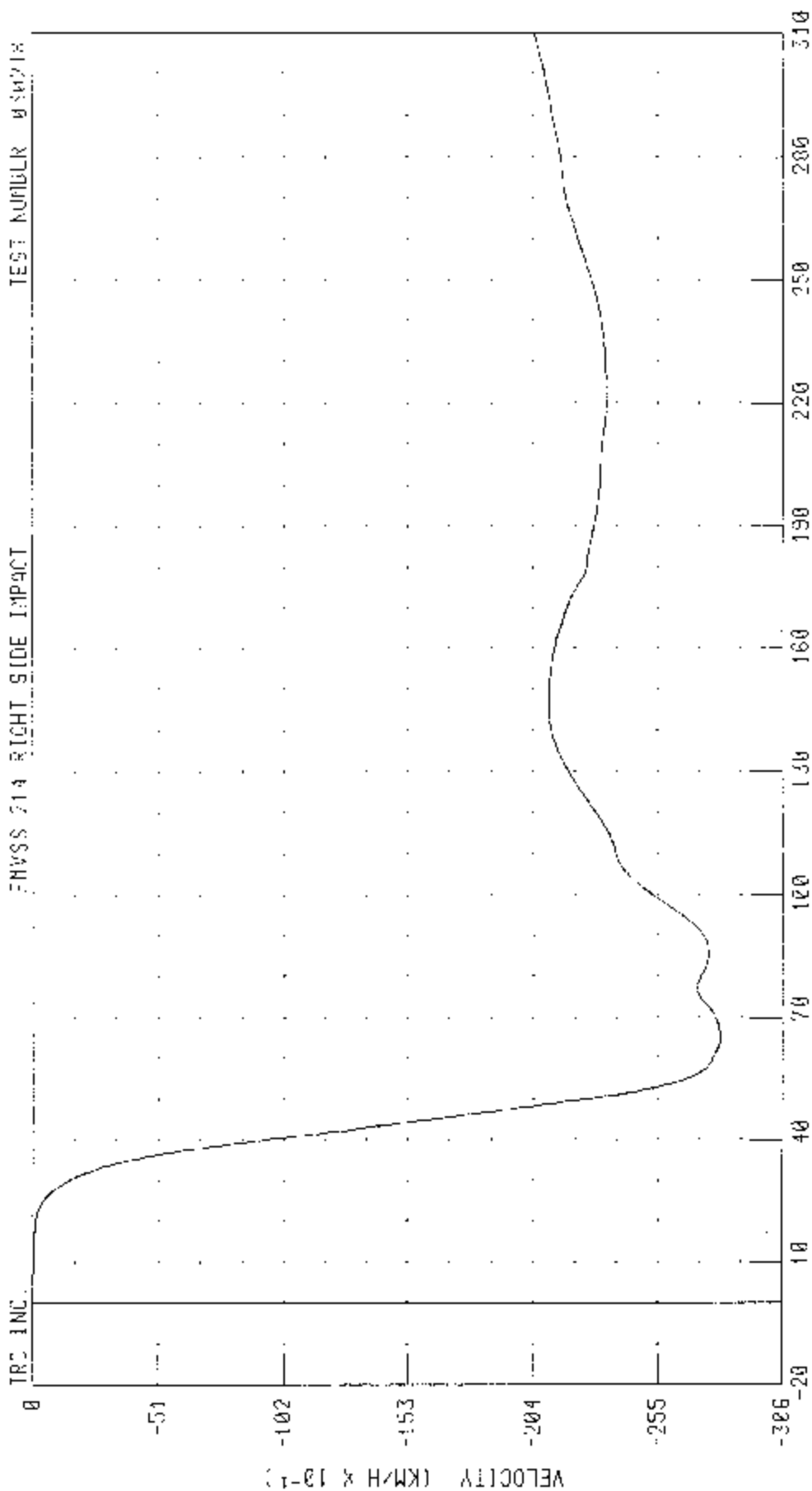
PEAK DATA 7 75 0 6 72.64 MS: -40.88 G 0 42 68 MS

CHANNEL: T12Y62 FILTER: CH CLASS 1000

40/24 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BAR) INTO RIGID SIDE OF 2003 SUBV BU 6000

RIGHT FRONT PASSENGER LOWER SPIKE V AXIS VELOCITY

FNVS 214 RIGHT SIDE IMPACT TEST NUMBER 050718



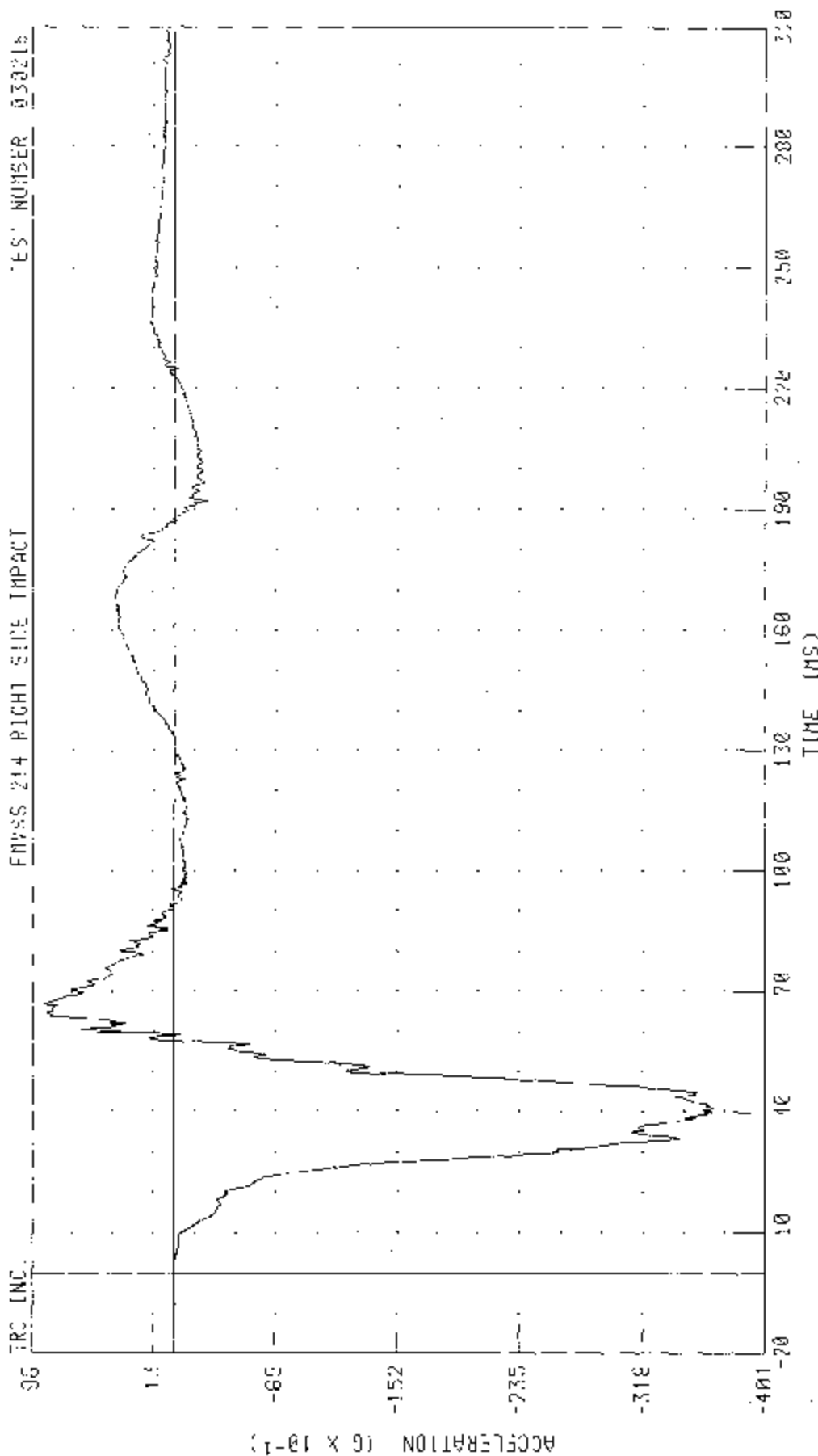
TIME (MS)

PEAK DATA 0.00 KM/H @ 0.00 MS; -72.07 KM/H @ 65.12 MS

CHANNEL T12YV7 FILTER CH. CLASS 150

48/24 KPH 30 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO RIGHT SIDE OF 2003 SUBARU 3PJA

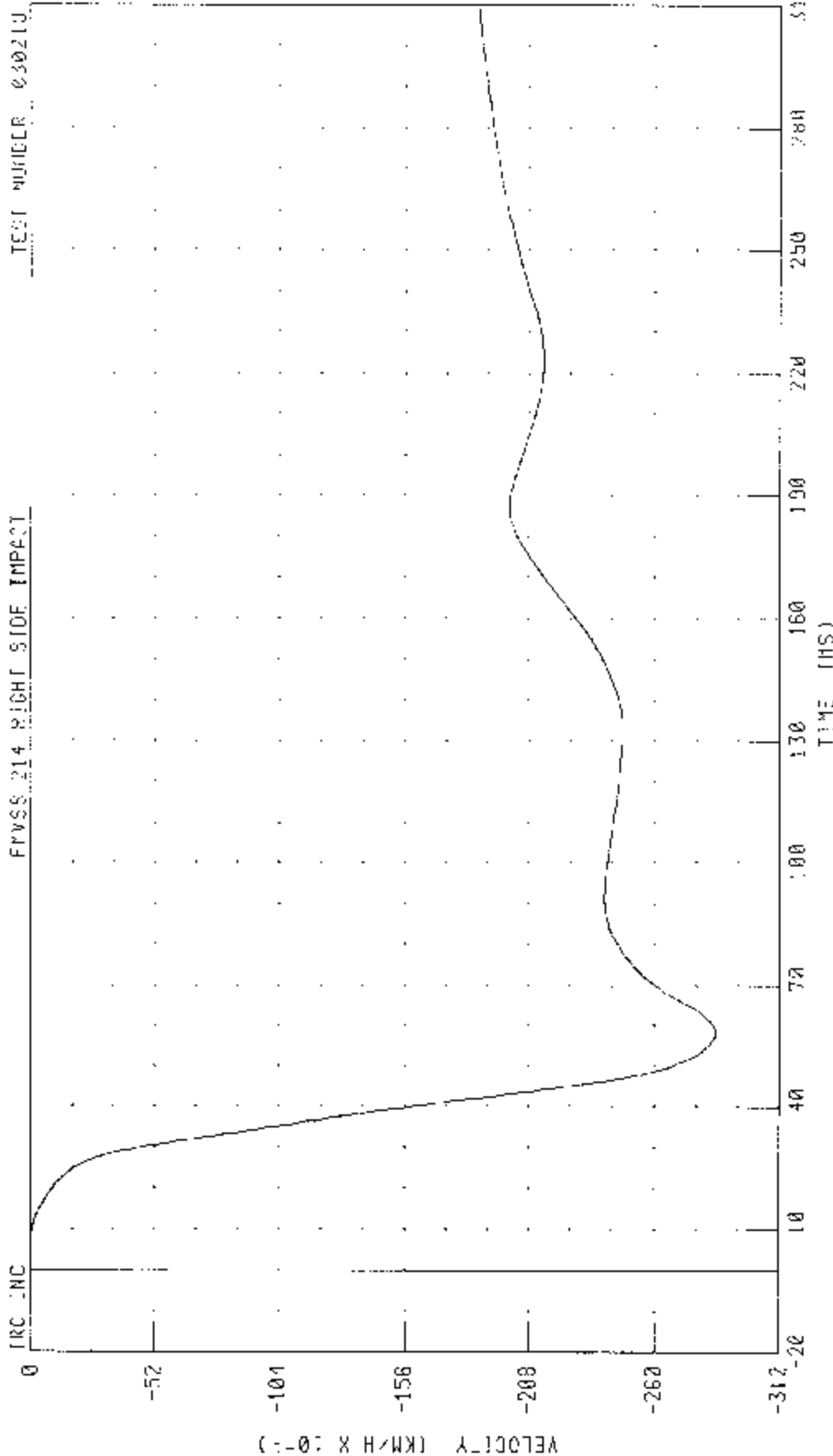
RIGHT FRONT PASSENGER PELVIS X AXIS ACCELERATION



PEAK DATA: 8.87 G @ 67.35 MS; -36.58 G @ 41.20 MS

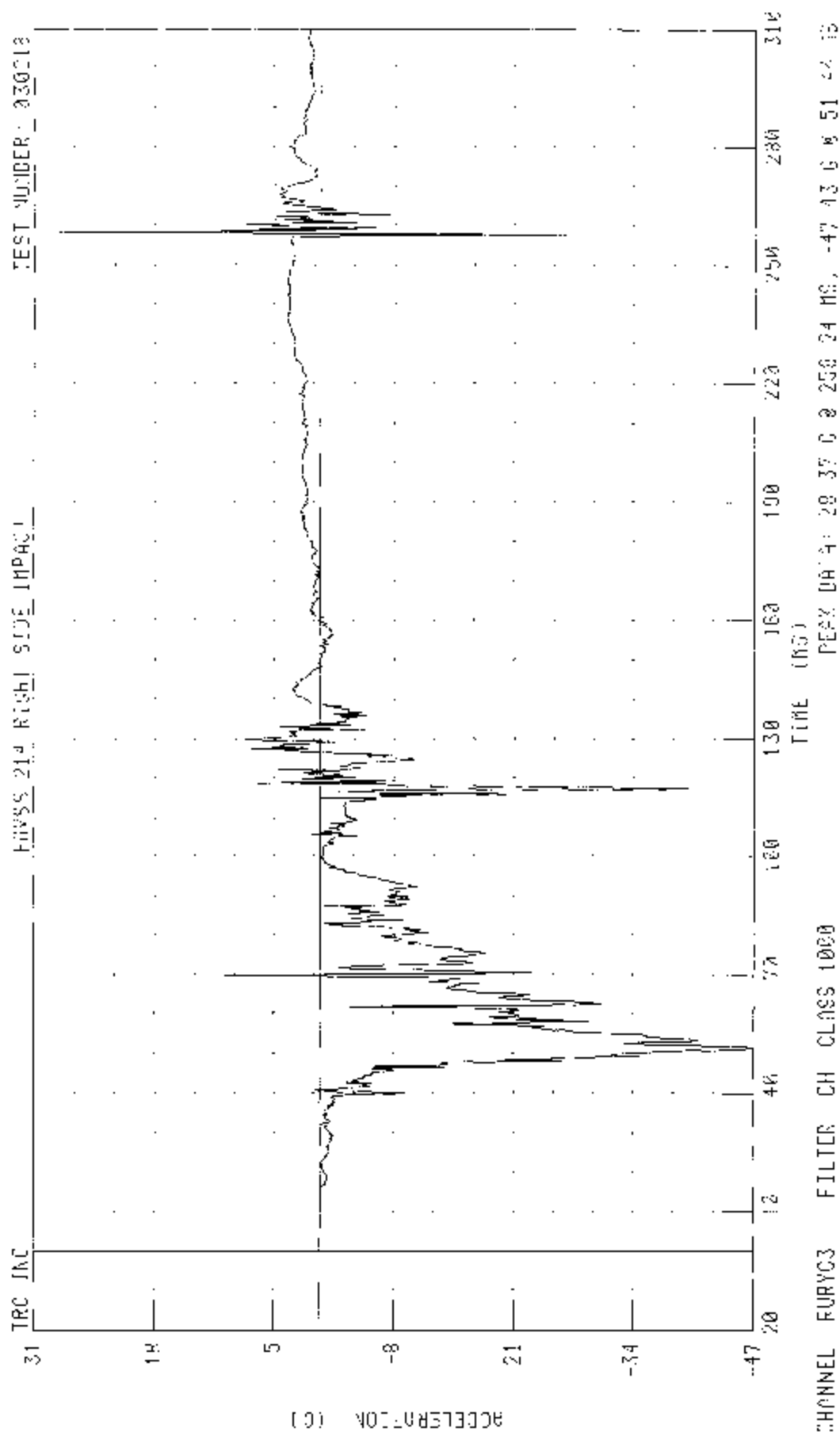
CHANNEL: PELVYC2 ATT:FR:CH CLASS:1000

18.74 KPH 94 DEGREE SIDE IMPACT (MOVING DEFORMABLE CARRIER) INTO RIGHT SIDE OF 2003 SUBARU BA A
 RIGHT FRONT PASSENGER SEAT'S Y-AXIS VELOCITY



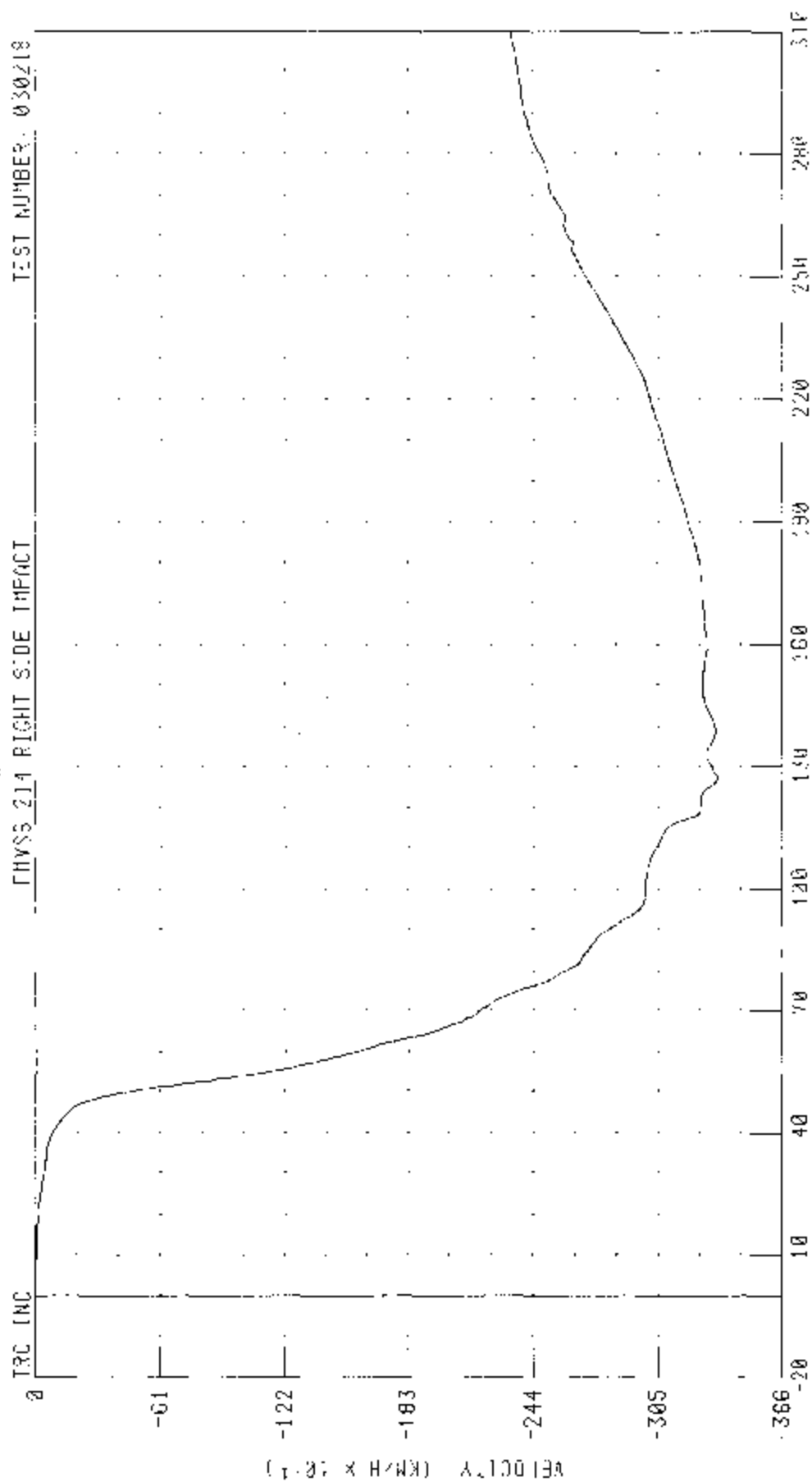
48/24 KPH 30 DEGREE SIDE IMPACT MONITORING ULTIMATE L BARRIER INTJ RIGHT SIDE OF 2103 SUBPAR BA-A

RIGHT REAR PASSENGER UPPER RIR Y-AXIS ACCELERATION



48/24 KPH 00 DEGREE SIDE IMPACT INVOLVING DEFORMABLE BARRIER INTO RIGHT SIDE OF 2003 SUBARU RAJA

RIGHT REAR PASSENGER UPPER RIB X AXIS VELOCITY



TIME (MS)

CHANNEL: RURYV3 FILTER: CH CLASS 180

PEAK DATA: 0 30 KPH/4 8 3.04 MS. 33.43 KPH/11 5 126.85 MS

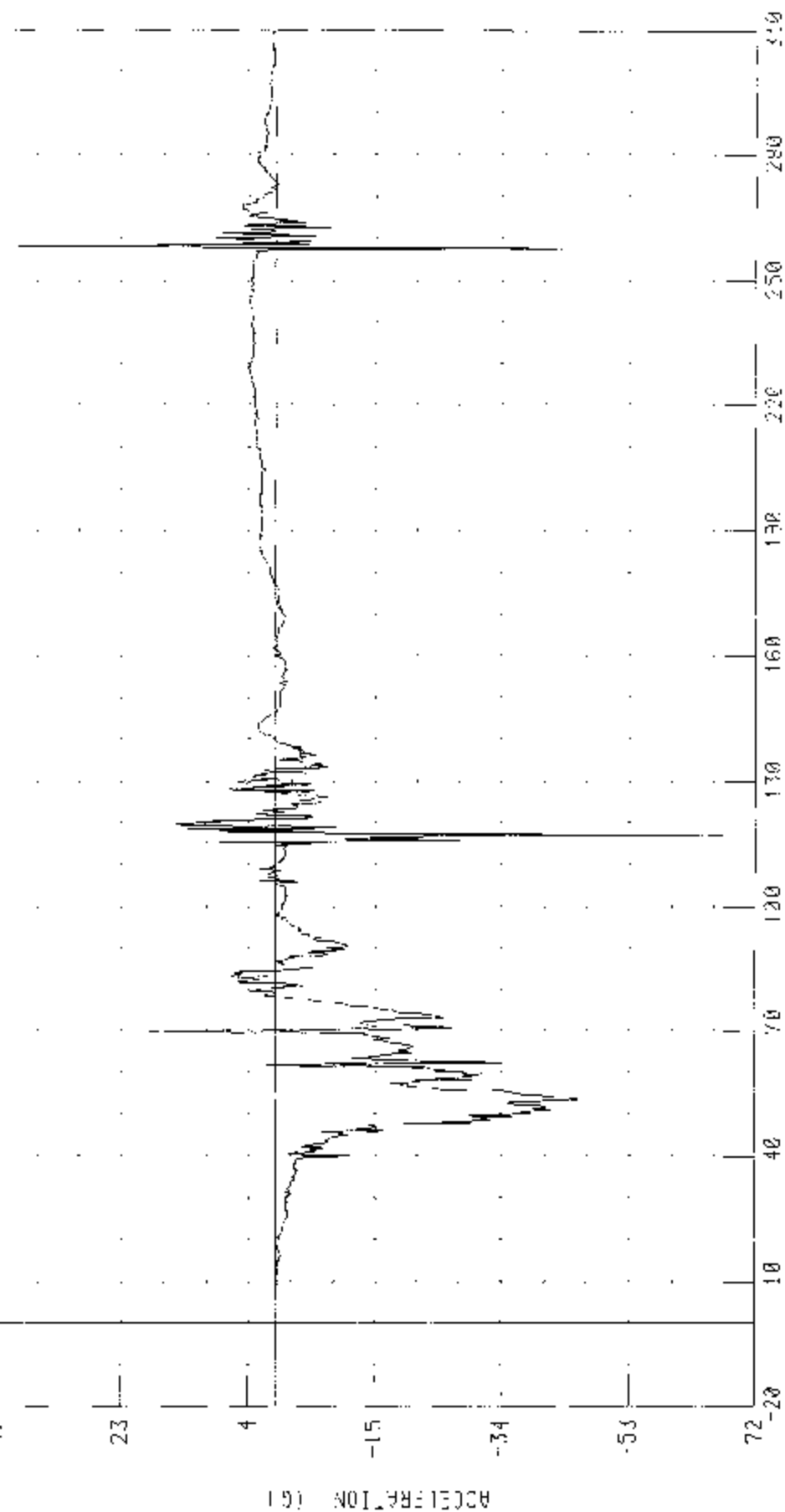
48/24 KPH 00 DECEET SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO RIGHT SIDE OF 2003 SUBARU 20 IN

RIGHT REAR PASSENGER LOWER RIB Y AXIS ACCELERATION

TEST NUMBER 030218

HIVSS 214 S10-T SIDE IMPACT

42 IRC INC



TIME (MS)

CHANNEL: RLRYG3 FILTER: CH LOSS: 100%

PEAK DATA: 38.6% C @ 250.24 MS, -67.01 G @ 147.20 MS

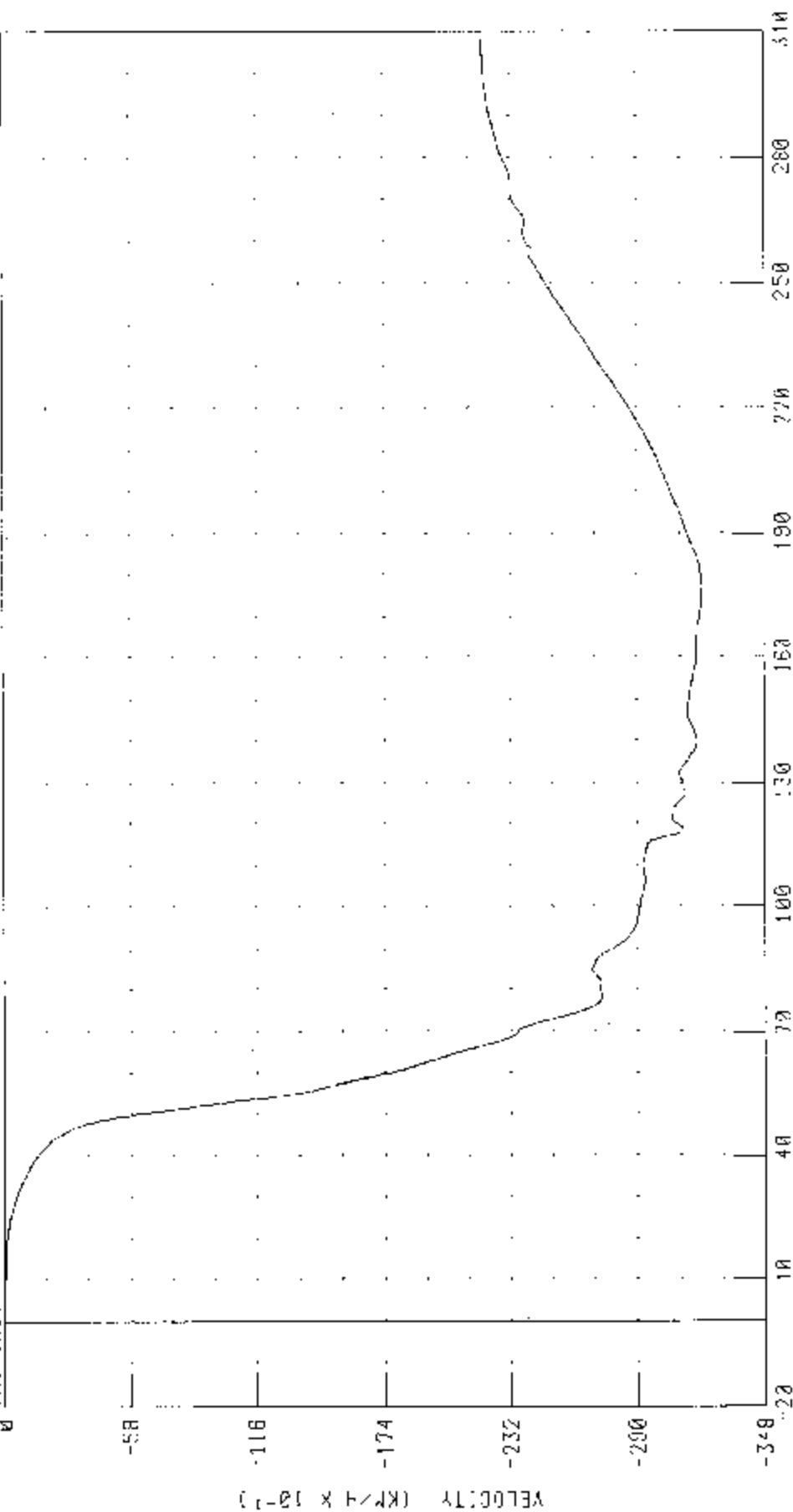
48/24 MPH 90 DEGREE SIDE IMPACT (MOVING 48-MPH RIF PASSIER) INTO RIGHT SIDE OF 2023 SUPPLY BAY

RIGHT REAR PASSENGER LOWER RIB 7-OXIS VELOCITY

TEST NUMBER: 030218

FMVSS 214 RIGHT SIDE IMPACT

TRC INC.



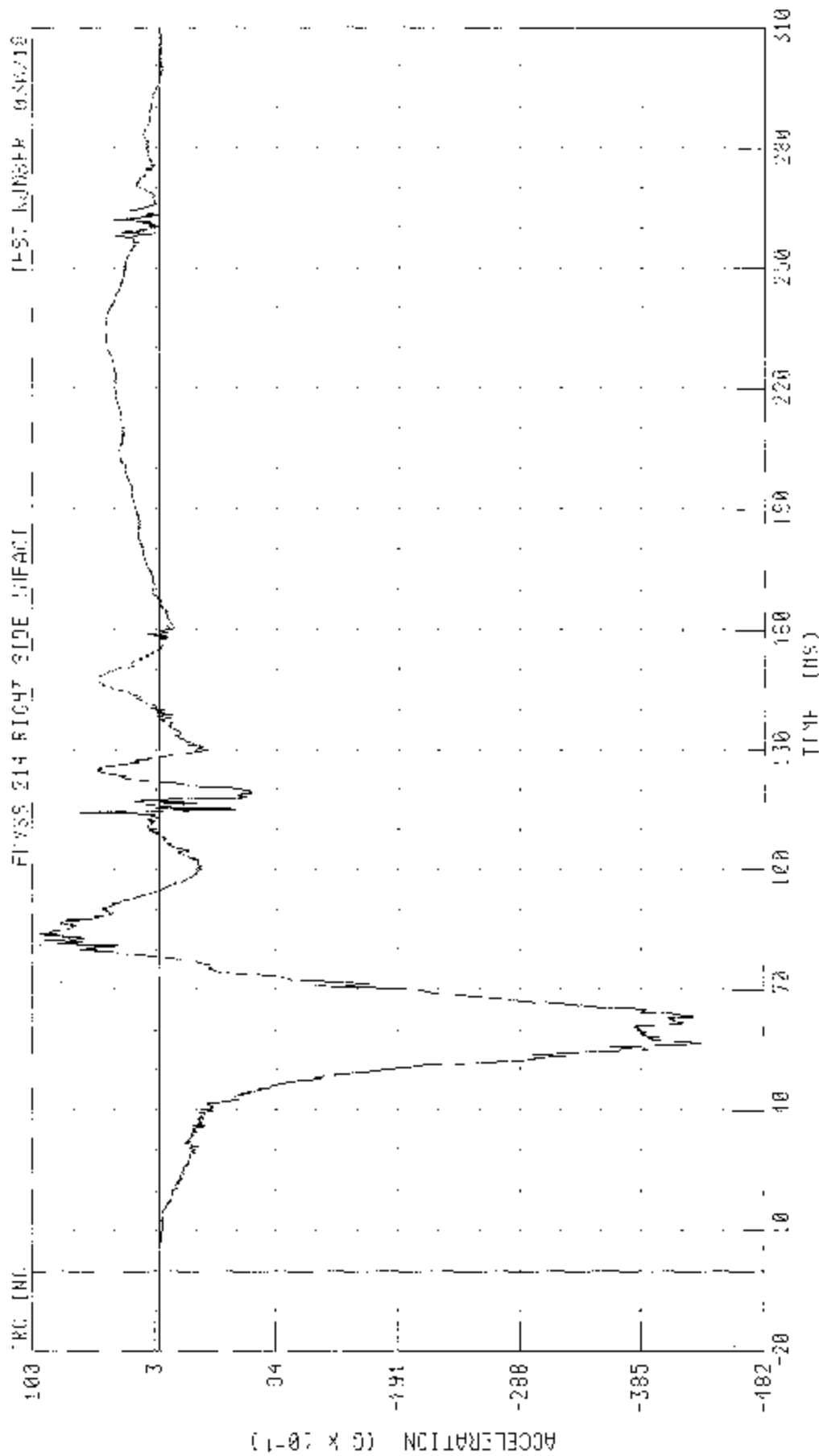
TIME (MS)

CHANNEL: RLRYV3 FILTER: CH. CLASS 100

PEAK DATA: 8.00 KM/H @ 5.76 MS, 31.98 KM/H @ 177.04 MS

40/24 MPH 00 DEGREE SIDE IMPACT MOVING DEFORMABLE BARRIER INTO RIGHT SIDE OF 2003 SUBARU DA 4

RIGHT REAR PASSENGER LOWER CHINE Y-AXIS ACCELERATION

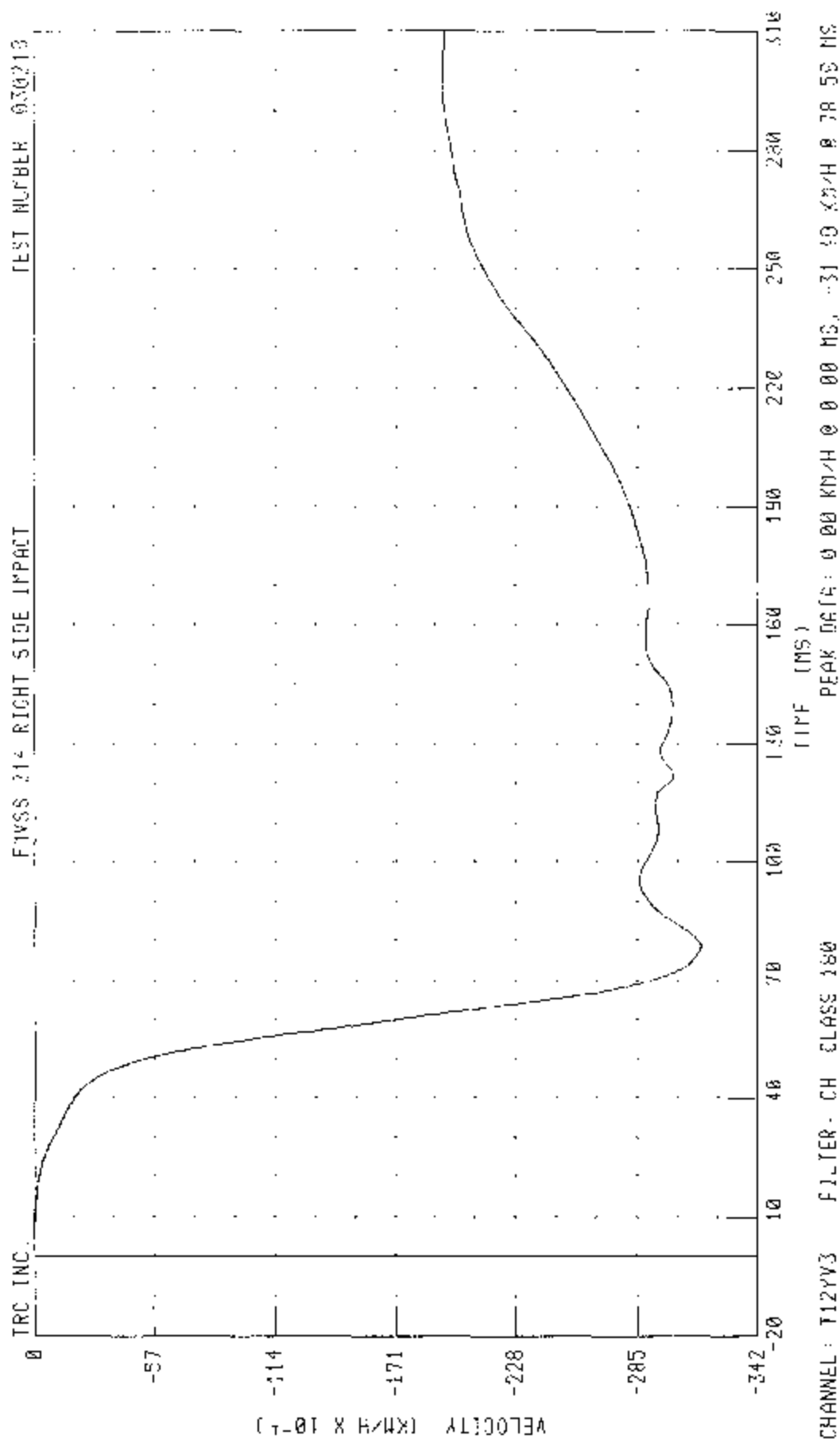


CHANNEL 112V33 FILTER 00 CLASS 1000

PEAK DATA 9 68 0 0 81.60 MS -43.20 G 0 58.88 MS

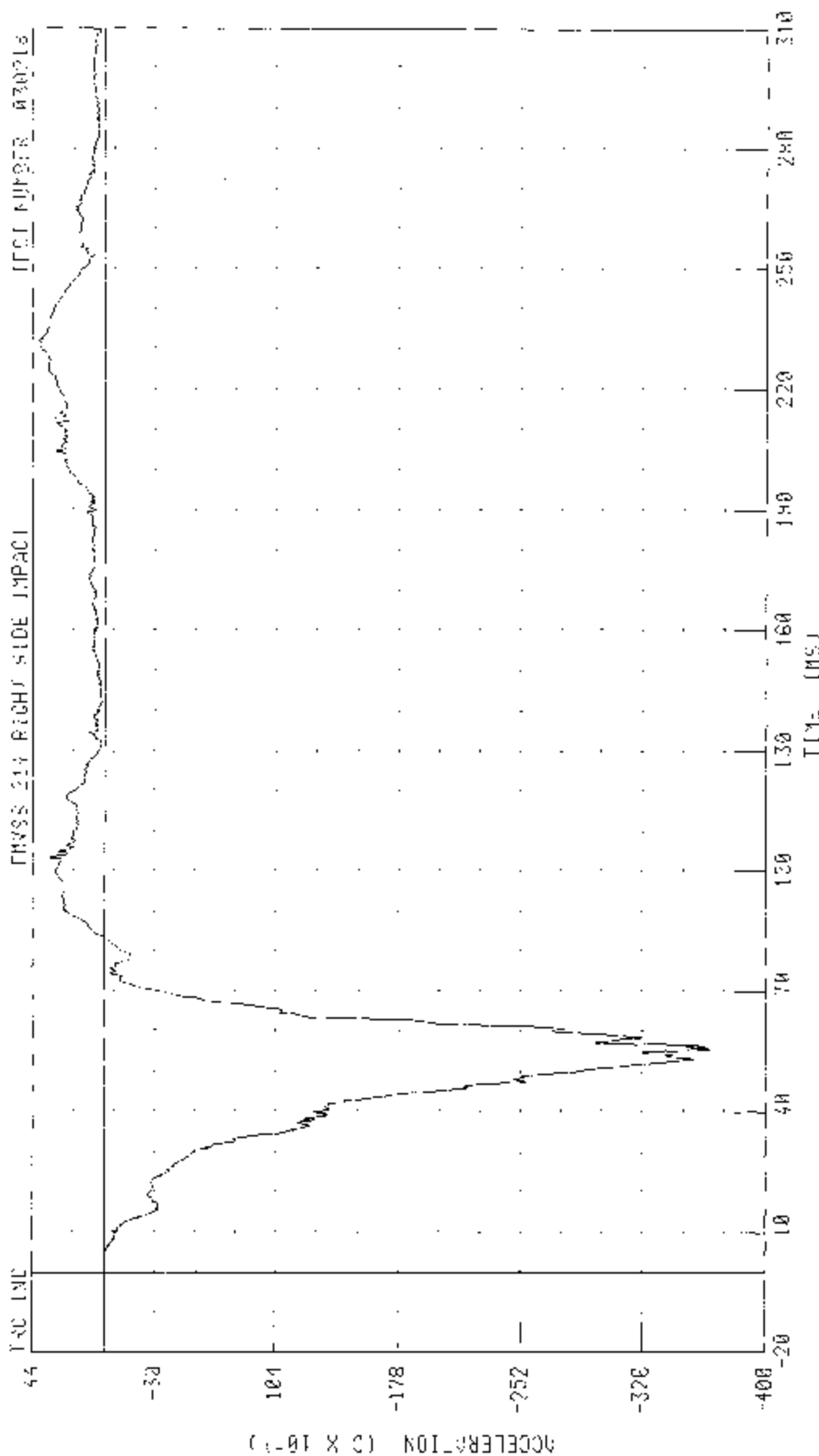
43/24 KPH 00 DEGREE SIDE IMPACT (MOVING DETONABLE BARR ER) INTO RIGHT SIDE OF 20AS SUBAM. BADA

RIGHT REAR PASSENGER LOWER SPINE X AXIS VELOCITY



48/24 371 30 DEGREE SIDE IMPACT MOVING INFORMABLE BARRIER INTO RIGHT SIDE OF 2003 SUBARU BA.2

RIGHT REAR PASSENGER SEAT VIB X-AXIS ACCELERATION



CHANNEL PEVC03 FILTER CII CLASS 1000

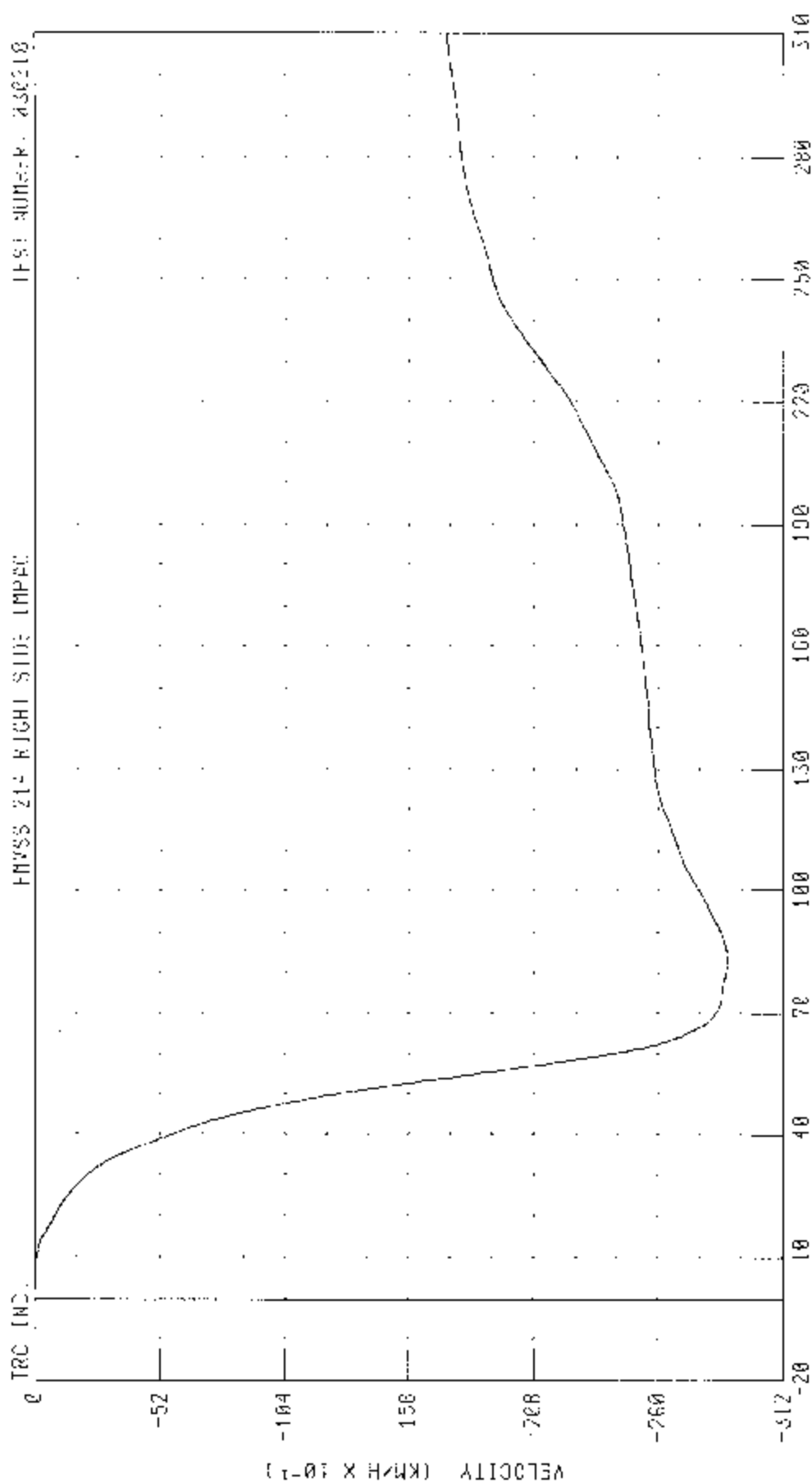
PEAK DATA: 4 03 3 5 232 00 MS -36 34 5 4 50 52 MS

43/24 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARREL) INTO RIGHT SIDE OF TRUCK STOPPED R&D

RIGHT REAR PASSENGER PELVIS Y-AXIS VELOCITY

TEST NUMBER: 230218

HYSS 214 RIGHT SIDE IMPACT



TIME (MS)

PEAK DATA: 0 00 KM/H @ 28 MS; -28 90 KM/H @ 83 12 MS

CHANNEL: PEVYV3 FILTER: CH. CLASS: 130

Right Front Passenger and Right Rear Passenger Dummy Instrumentation Plots

Acceleration Data - Filter Class 1000 - Redundant

Integration Data - Filter Class 180 - Redundant

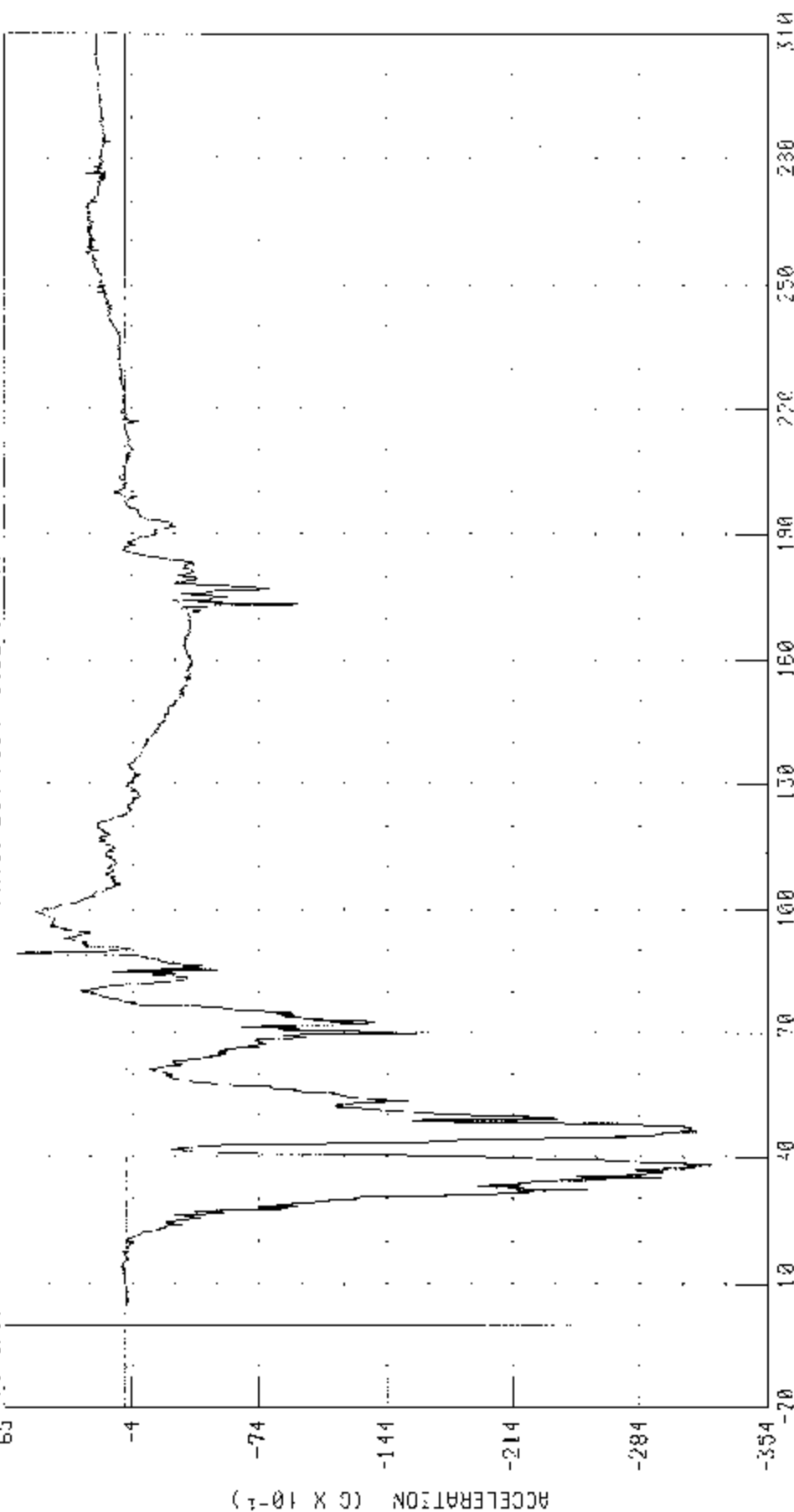
48-24 KP4 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO RIGHT SIDE OF 2000 SLRANK R10A

RIGHT FRONT PASSENGER UPPER RIB Y-AXIS REDUNDANT ACCELERATION

TRC INC.

FNVS 214 RIGHT SIDE IMPACT

TEST NUMBER 040218



TIME (MS)

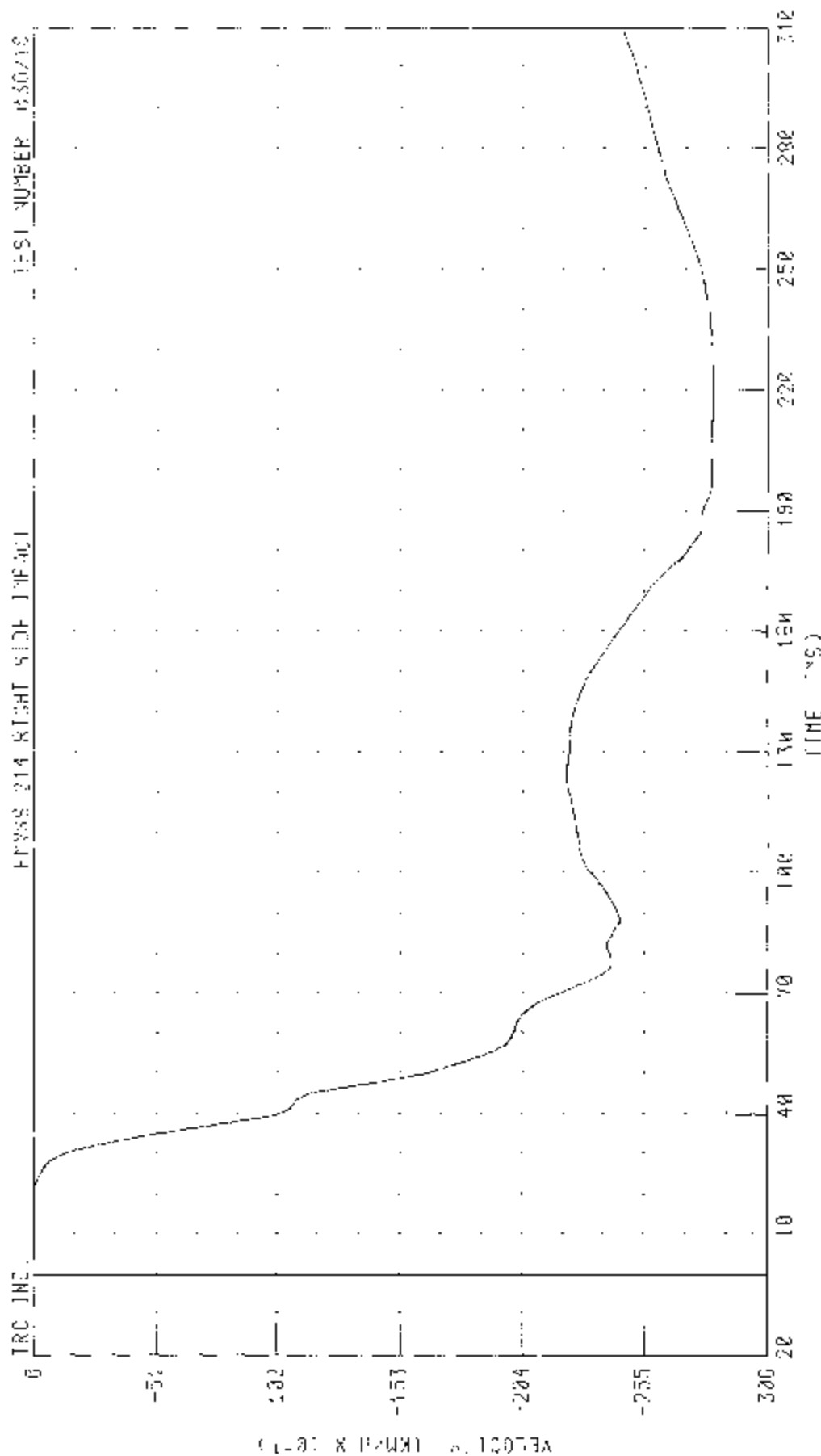
CHANNEL: RURYR2 FILTER: CH. CLASS 1003

PEAK DATA: 5.20 G @ 89.28 MS. -32.31 G @ 38.98 MS

48/24 KPH 90 FORCE SIDE IMPACT INVOLVED VEHICLE CARRIER INTO RICH SIDE OF ROAD SUPER DATA

RIGHT FRONT PASSENGER SEATER 413 SEATS REINFORCED PLATE

FRONT 214 RIGHT SIDE IMPACT TEST NUMBER 1550/15



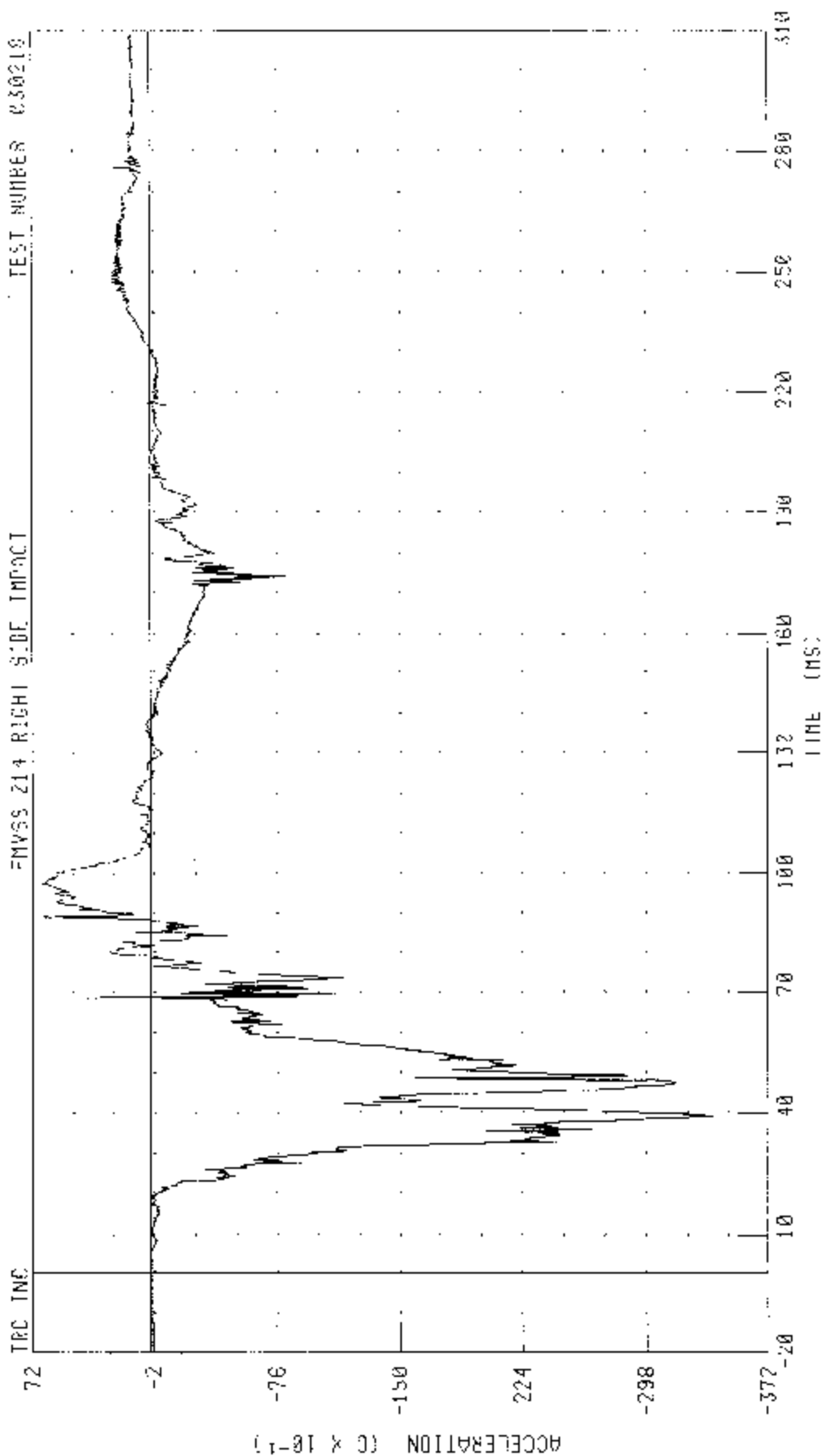
PERK DATA 0.00 KM/H 0 0 00 MS. -70.32 KM/H 0 210 10 MS

CHANNEL: RUPVUJ FILTER: CH. CLASS 180

48/24 KPH 9% DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO RIGHT SIDE OF 2003 SUBARU BECA

RIGHT FRONT PASSENGER LOWER RIB Y AXIS REDUNDANT OCCUPANTION

TRC INC FMVSS 214 RIGHT SIDE IMPACT TEST NUMBER 030218

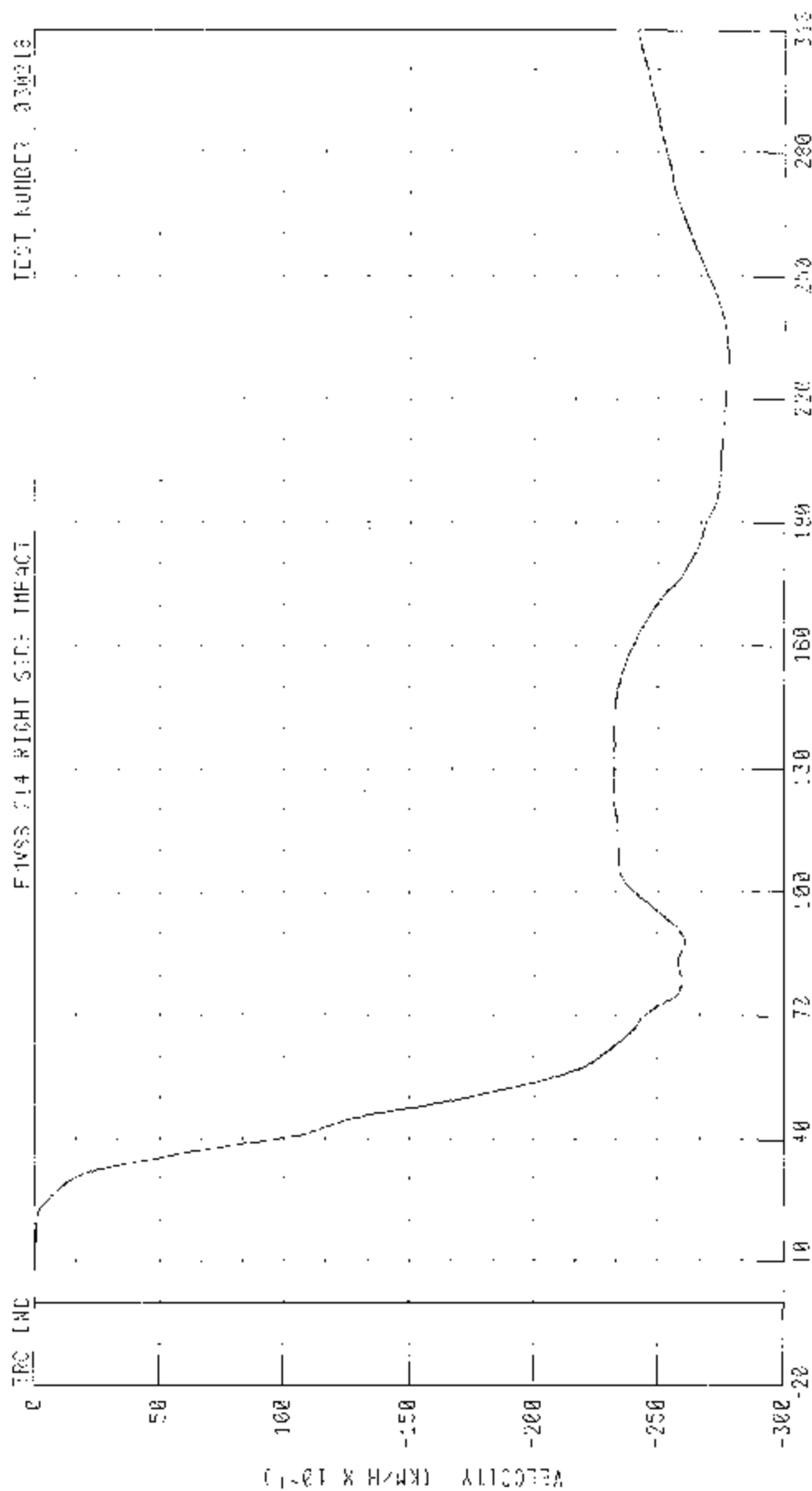


CHANNEL: ELEYR2 FILTER: CH CLASS 1200

PEAK DATA 6 63 0 0 97 44 MS, -33 75 G 0 38 98 MS

40/24 KPH 90 DEGREE SIDE IMPACT MOVING DEFORMABLE BARRIER INTO RIGHT SIDE OF 2003 SUBARU 34JA

RIGHT FRONT PASSENGER LOWER 318 Y-AXIS IMPACTANT VELOCITY



CHANNEL: R RYVJ FILTER: CH CLASS 130 PEAK DATE: 0.20 KM/H @ 0.48 PS, -27.75 KM/H @ 230 MS 16

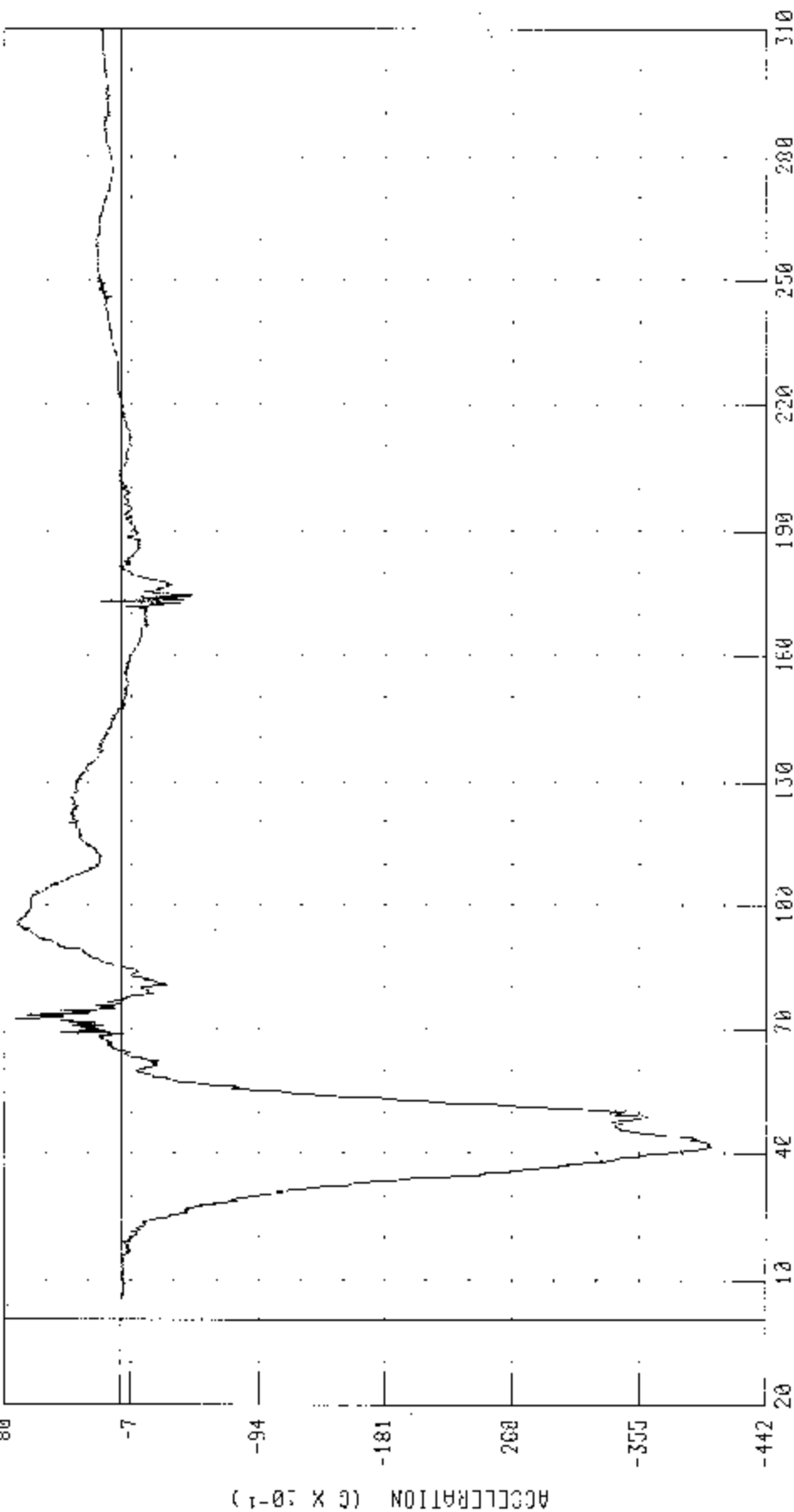
48/24 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO RIGHT SIDE OF 2003 SUBARU DB4F

RIGHT FRONT PASSENGER LOWER SPINE X-AXIS REOUBDANT ACCELERATION

TRC INC.

THYSS 214 RIGHT SIDE IMPACT

TEST NUMBER 030218



TIME (MS)

CHANNEL 117YR2 FILTER CH CLASS 1000

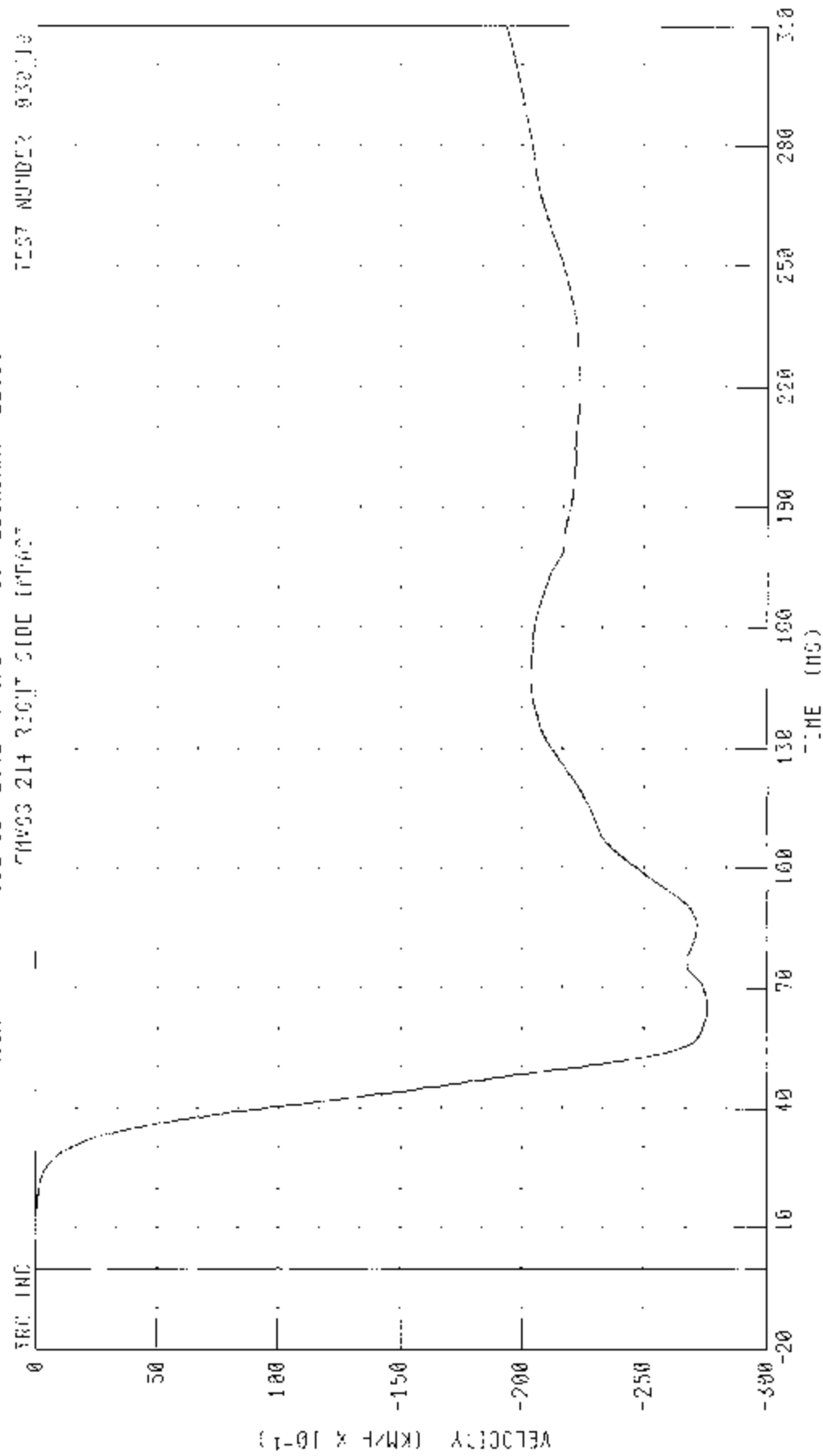
PEAK DATA: 7 29 G Y / 2 56 MS; -10.36 G X 41 68 MS

46/24 KPH 30 DEGREE SIDE IMPACT INVOLVING DEFORMABLE BARREL (FR) INTO RTHH SIDE OF 2403 SUBARU BAA-4

RIGHT FRONT PASSENGER LOWER SEATLINE Y AXIS RELUCTANT VELOCITY

TEST NUMBER: 030218

CHASS 214 RIGHT SIDE IMPACT



CHANNEL 7120VJ FILTER: CH CLASS 120

DECK DATA 0.00 KPH @ 0.00 MS, -27.57 KPH @ 64 MS MS

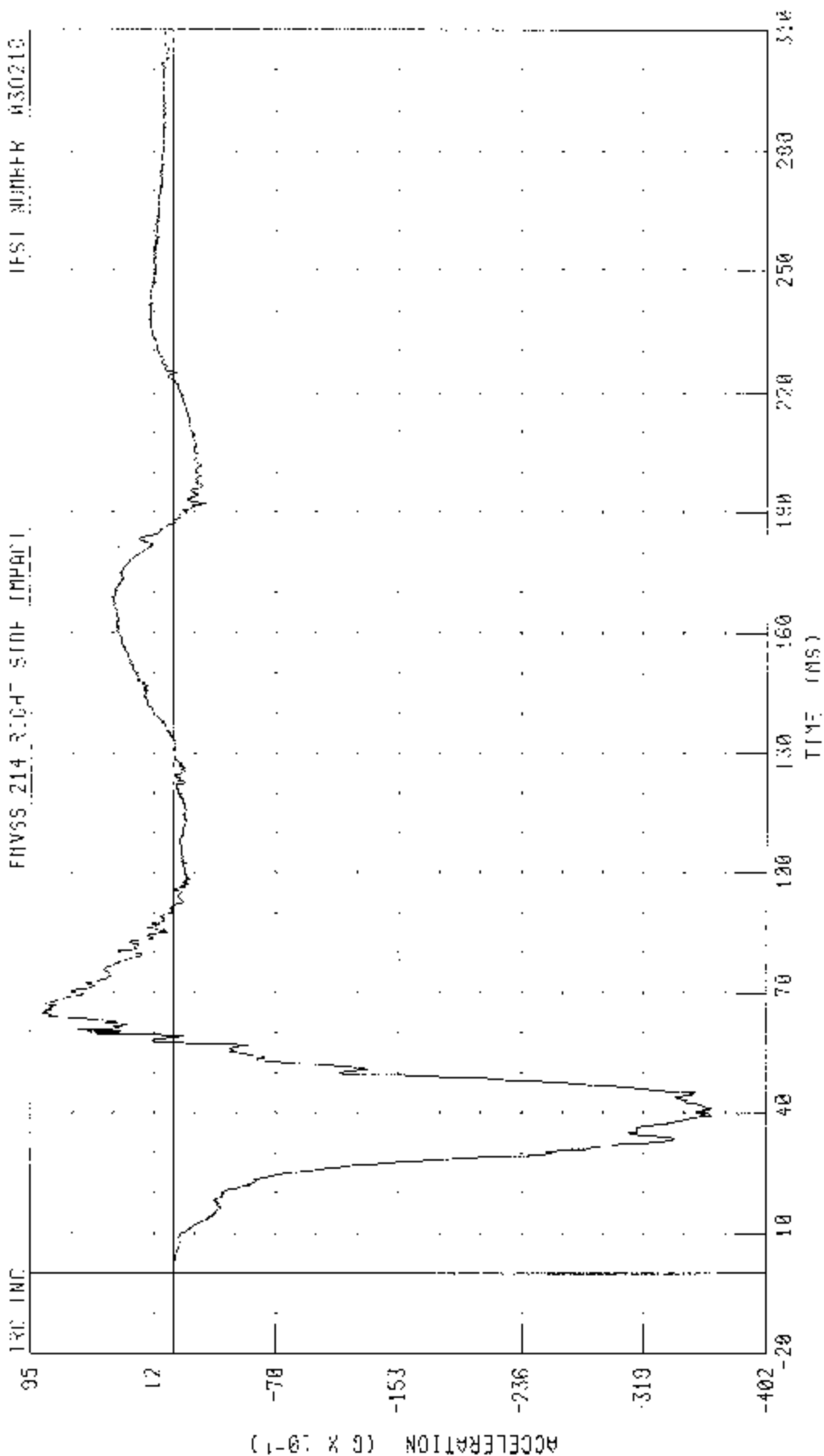
48.24 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO RIGHT SIDE OF 2003 SUBARU BA.A

RIGHT FRONT PASSENGER PELVIS Y-AXIS RESONANT ACCELERATION

130.1 MC

FMVSS 214 RIGHT SIDE IMPACT

TEST NUMBER H30218



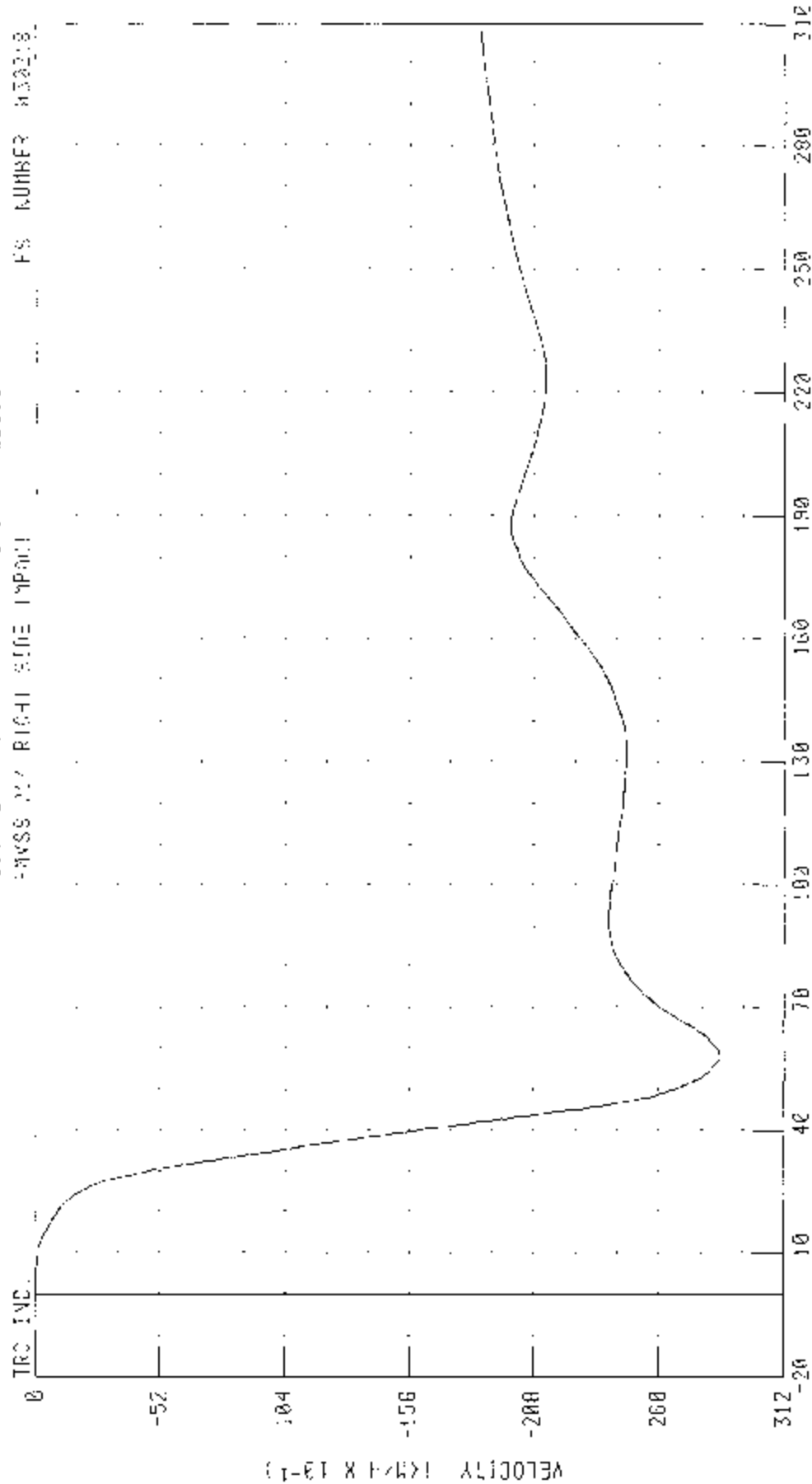
CHANNEL: PEYR2 FILTER: CH. CLASS 1000

PEAK DATA 8.80 G @ 65.00 MS, 10.51 G @ 41.20 MS

42°24' 40" DEGREE SIDE IMPACT (MOVING DEFORMABLE BARrier) INTO LIGHT SLOTTED 2003 SUBURBU BOLA

RIGHT FRONT PASSENGER PHILIPS P-CX 5 SHOCKMOUNT VELOCITY

AXIS 227 RIGHT SIDE IMPACT FS NUMBER 830218



TIME (MS)

PEAK DATA 200 KM/H @ 0.00 MS, -28.49 KM/H @ 57.02 MS

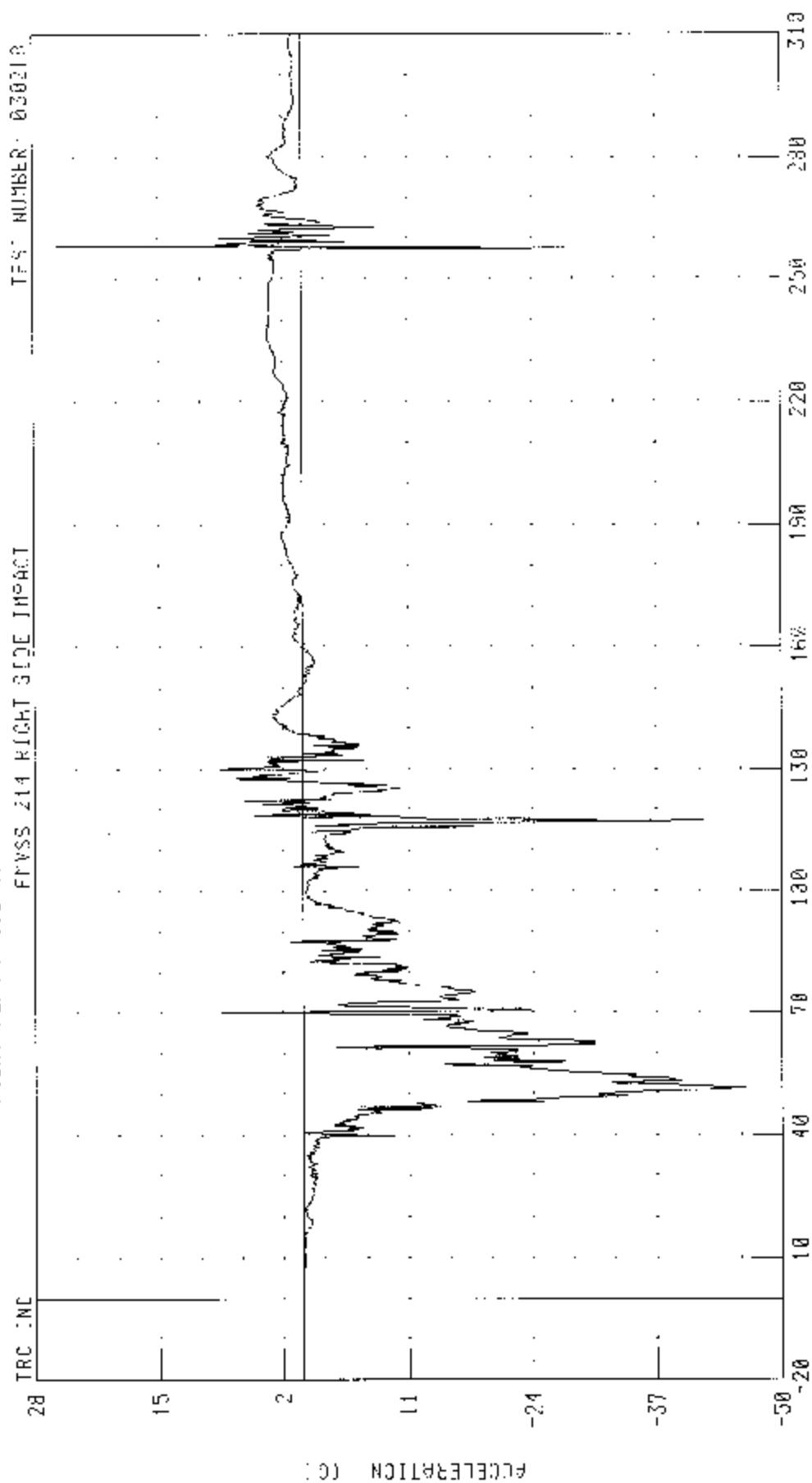
CHANNEL PEYVUJ FILTER CH CLASS 180

48/24 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO RIGHT SIDE OF 2003 SUBARU BAUF

RIGHT REAR PASSENGER UPPER RIB Y-AXIS REDUNDANT ACCELERATION

TEST NUMBER: 030218

FRVSS 214 RIGHT SIDE IMPACT



CHANNEL: RURYR3 FILTER: CH. CLASS 1000

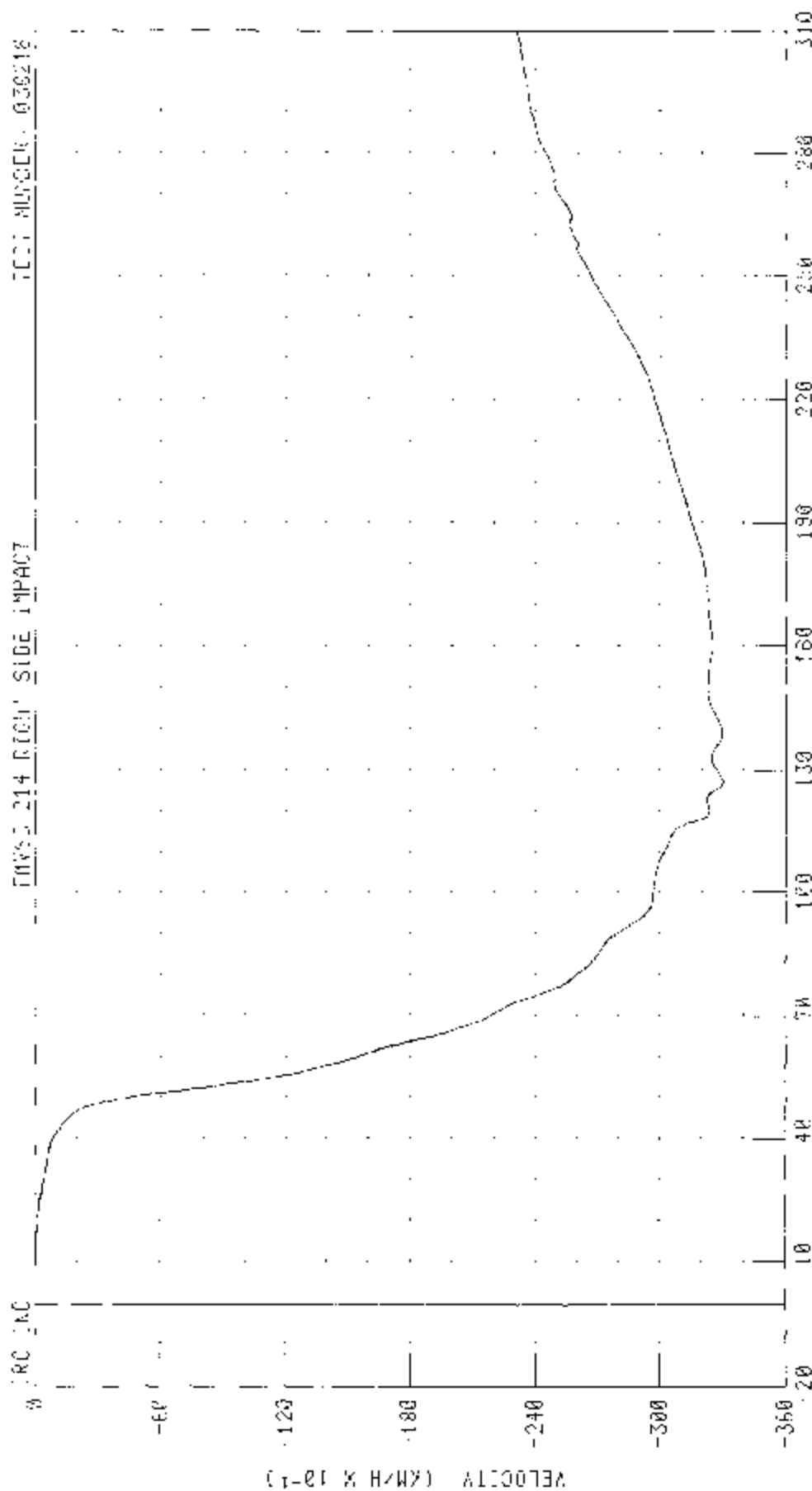
PEAK DATA 25.46 3 @ 258 74 % -16 18 0 @ 51.44 MS

48/24 KPH 60 DEGREE SIDE IMPACT (MOVING DEFLECTABLE BARRIER) INTO RIGHT SIDE OF 2007 SUBURBU BAN

RIGHT SIDE PRESENCE OF JUMP FOR X AXIS PARADIGM VELOCITY

TEST 214 RIGHT SIDE IMPACT

TEST NUMBER: 030218



TIME (MS)

CHANNEL RURYK FILTER CH CLOSS 100

PEAK DATA: 0 00 KPH 0 0 00 MS -35 06 KPH @ 127 07 MS

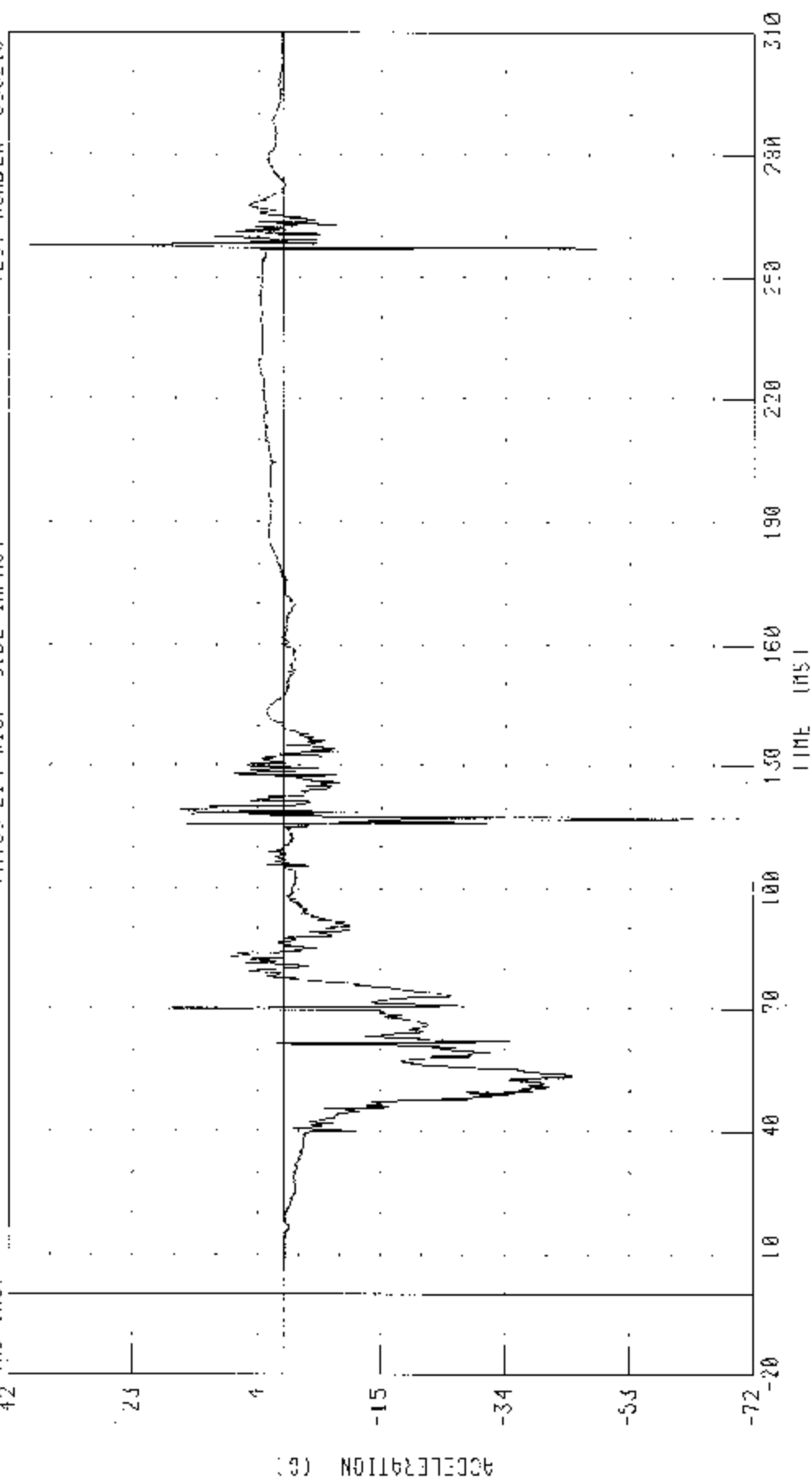
48/24 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO RIGHT SIDE OF 2003 CJ34RJ BAJA

RIGHT REAR PASSENGER LOWER RIB Y-AXIS REDUNDANT ACCELERATION

TRC INC.

FMVSS 214 RIGHT SIDE IMPACT

TEST NUMBER 030218

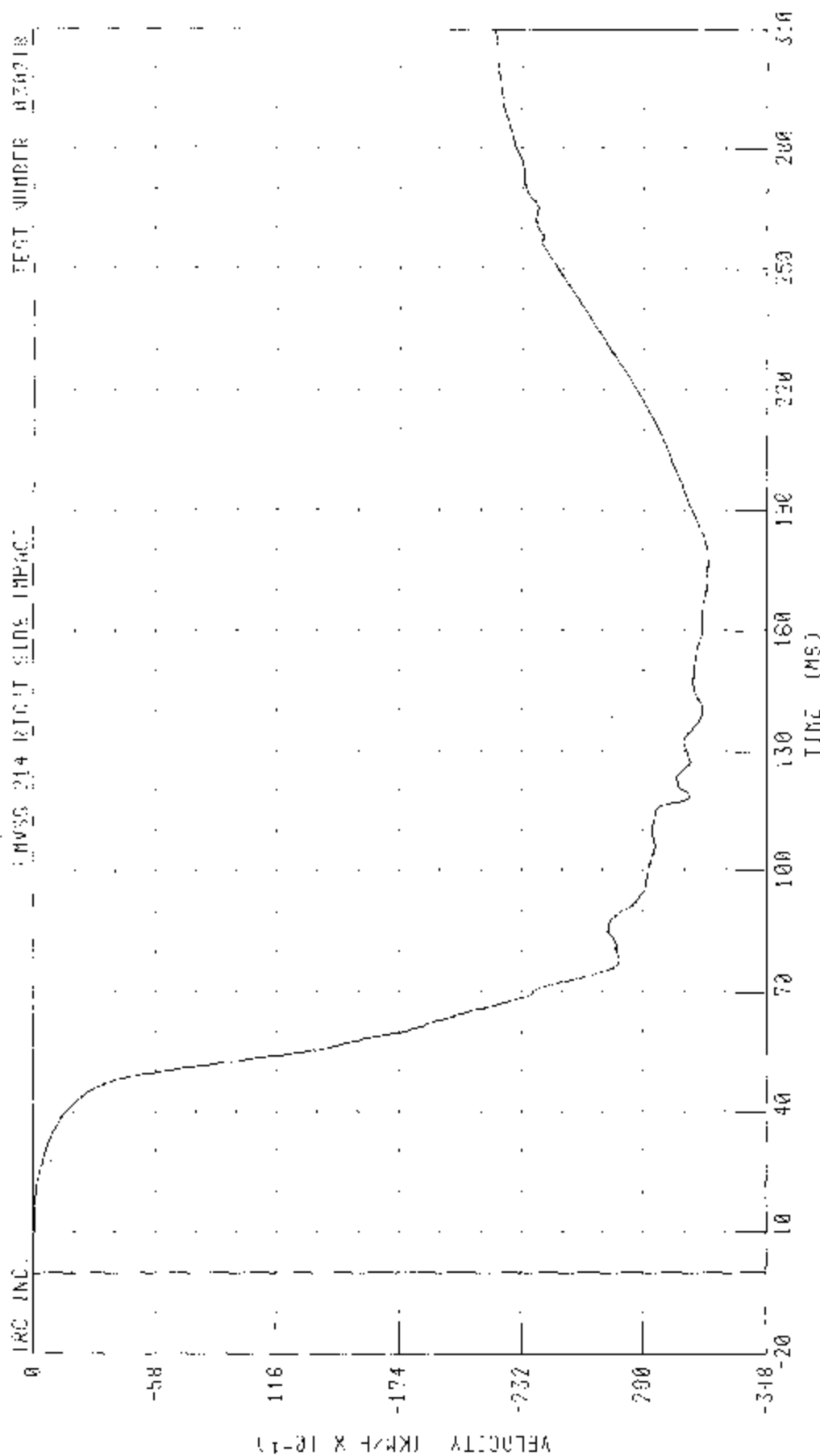


CHANNEL: RLRYR3 FILTER: CII CLASS 1000

PEAK DATA: 39.83 G @ 258.10 MS, 70.04 G @ 117.36 MS

48/24 KPH 03 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO RUL-H STOP OF ROAD SURFACE EOP

RIGHT REAR PASSENGER LOWER RIB V-AXIS FREQUENCY VELOCITY



PEAK DATA 0 00 KPH 0 00 MS; -37.03 KPH 0 176 06 MS

CHANNEL: RLRYVK FILTER: CH. CLASS: 180

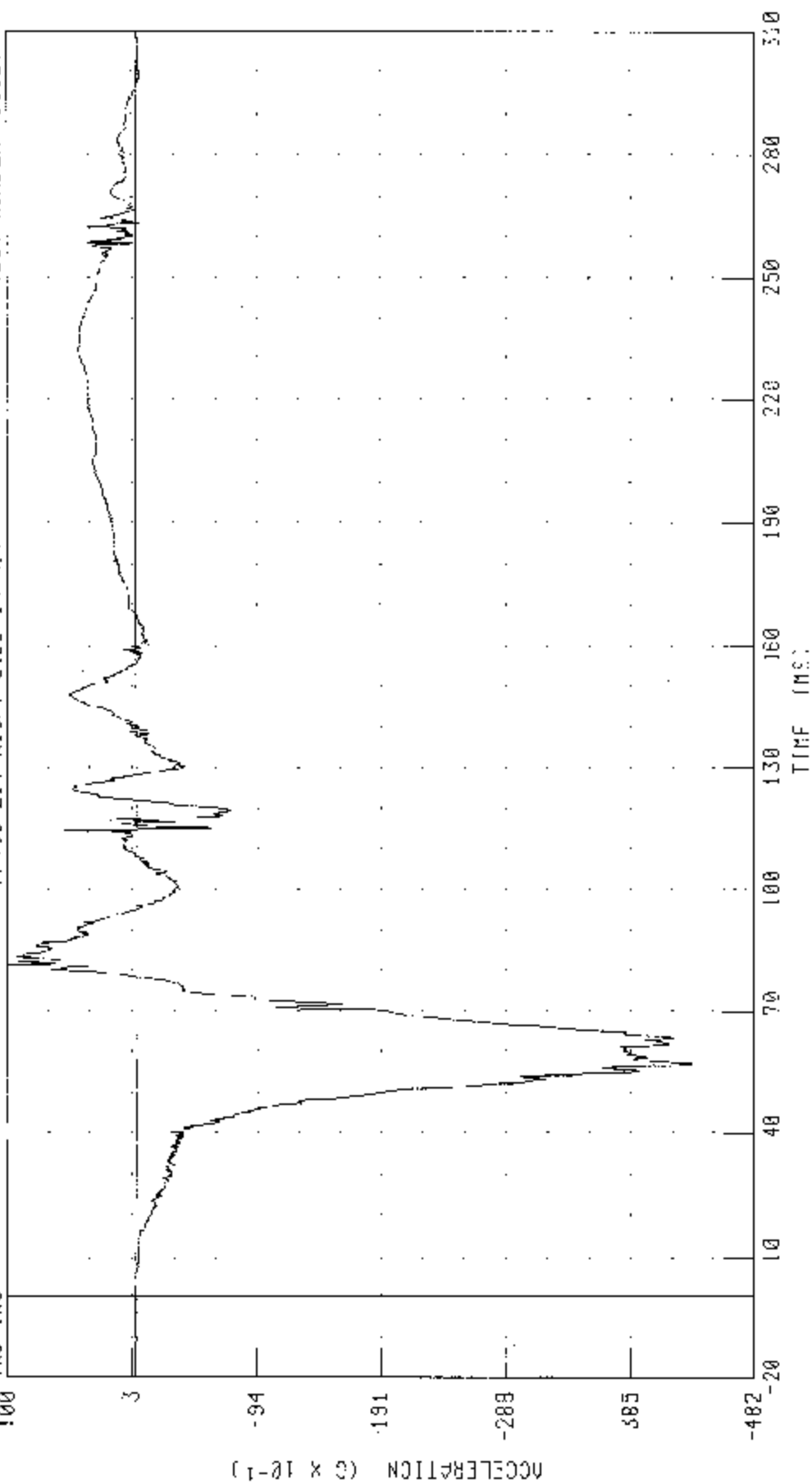
48/24 KPH 90 DEGREE SIDE IMPACT CROVING DEFORMABLE BARRIER INTO RIGHT SIDE II-2003 SUBARU OAJA

RIGHT REAR PASSENGER LOWER SPINE VIBRO'S RHUMBENT ACCELERATION

TRC INC

FMVSS 214 RIGHT SIDE IMPACT

TEST NUMBER: 030218



CHANNEL: 12YRJ FILTER: CH. CLASS 1B02

PEAK DATA: 9 82 G @ 01 60 MS: -43.32 G @ 56.80 MS

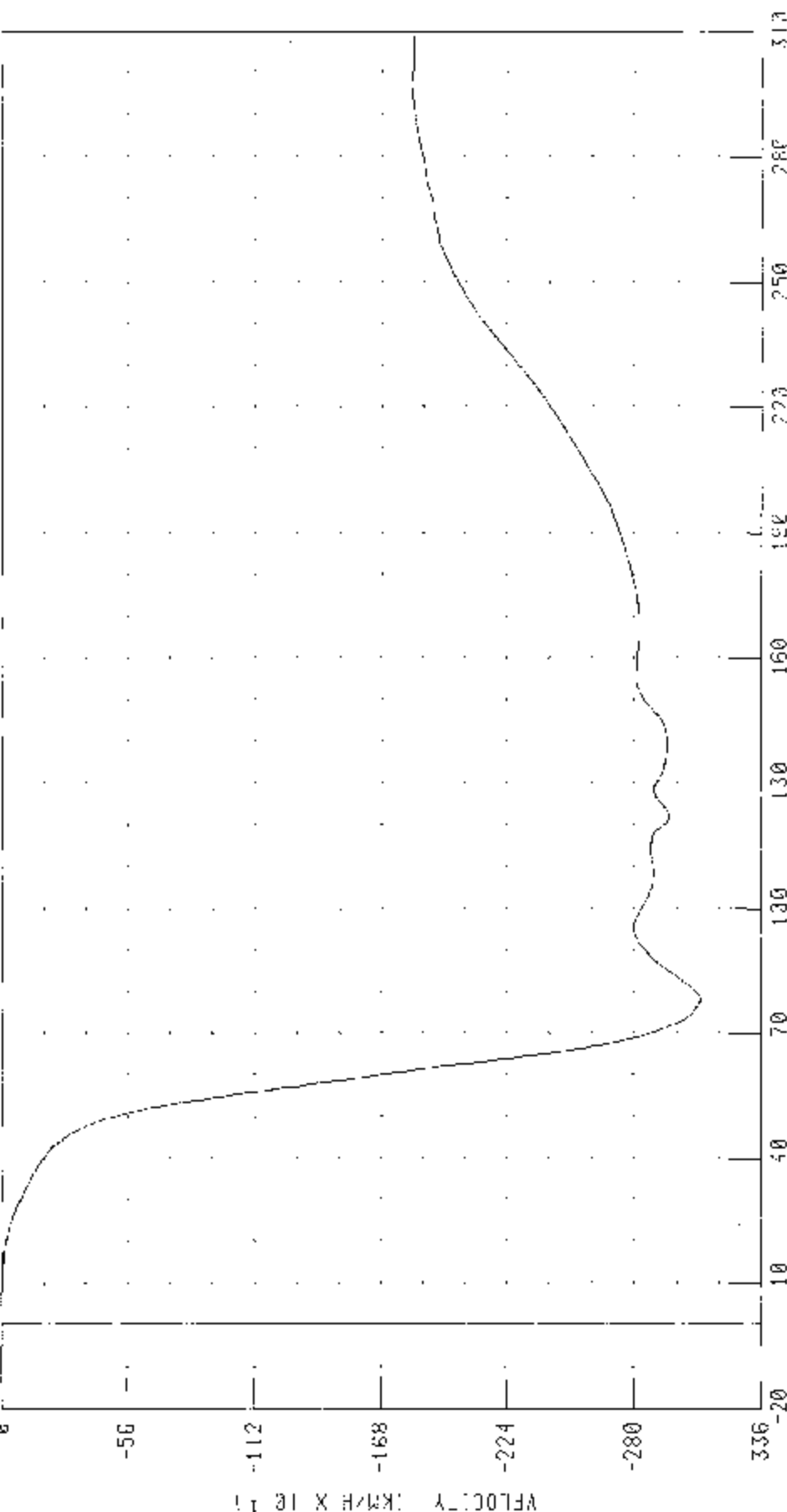
48/24 KPH 30 DEGREE SIDE IMPACT (MOVING DEFORMABLE BAR) INTO RIGHT SIDE OF 2003 CLARION R6J6

RIGHT REAR OCCUPANT LOWER SPINE T-AXIS REDUNDANT VELOCITY

TEST NUMBER: 030218

FMVSS 214 RIGHT SIDE IMPACT

TRC INC



TIME (MS)

CHANNEL: T12YVK FILTER: CH. CLASS 100

PEAK DATA 0.02 KM/H 0.00 MS 30.92 KM/H 5.73 40 MS

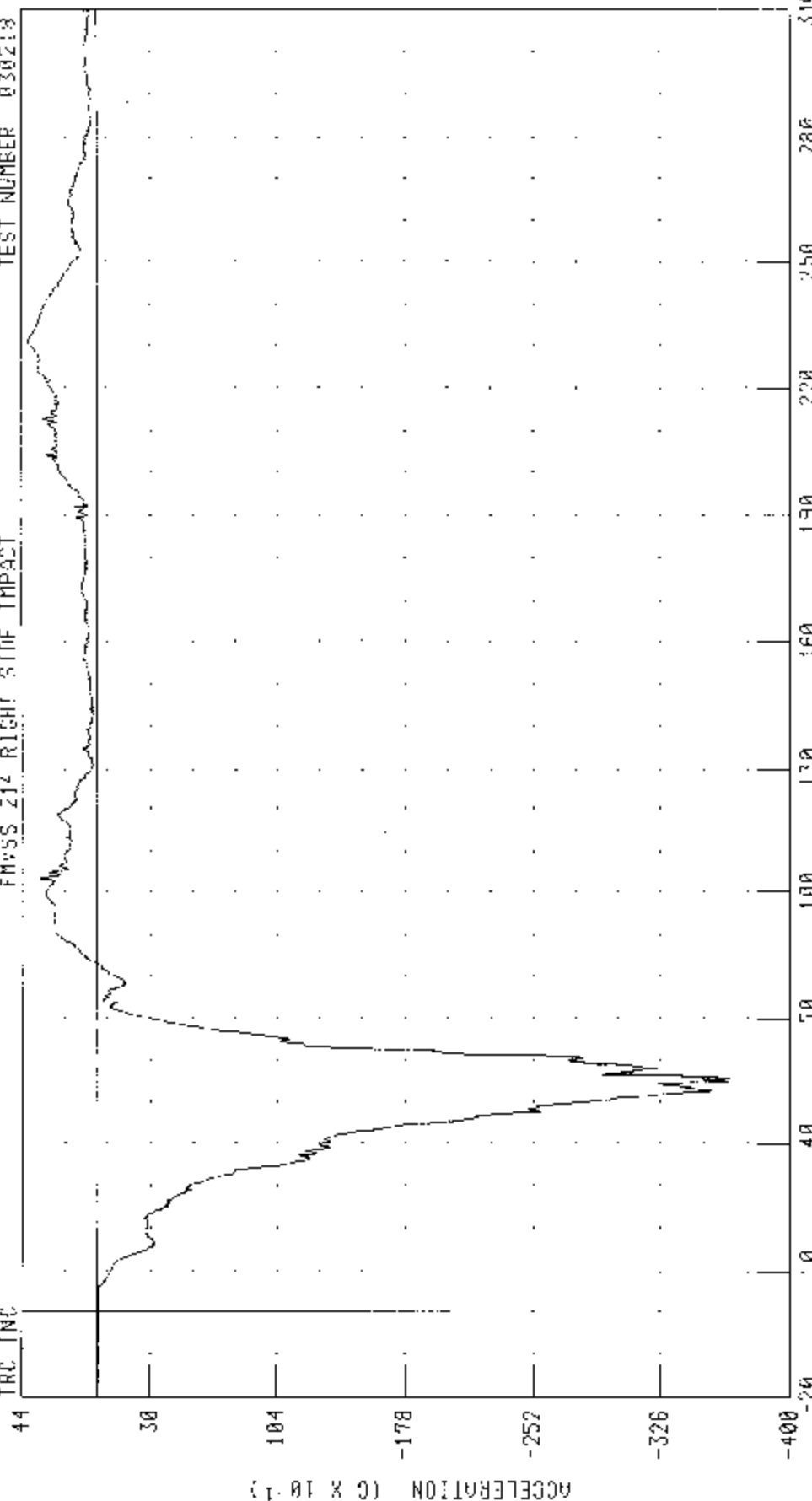
40/24 KFT 40 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO RIGHT SIDE OF 2003 SUBARU 3414

RIGHT REAR PASSENGER PE VLS Y-DIR'S REDUNDANT ACCELERATION

TEST NUMBER 030218

FMSS 214 RIGHT SIDE IMPACT

TRC INC



TIME (MS)

CHANNEL: PEVYR3 FILTER: CF, CLASS 1000

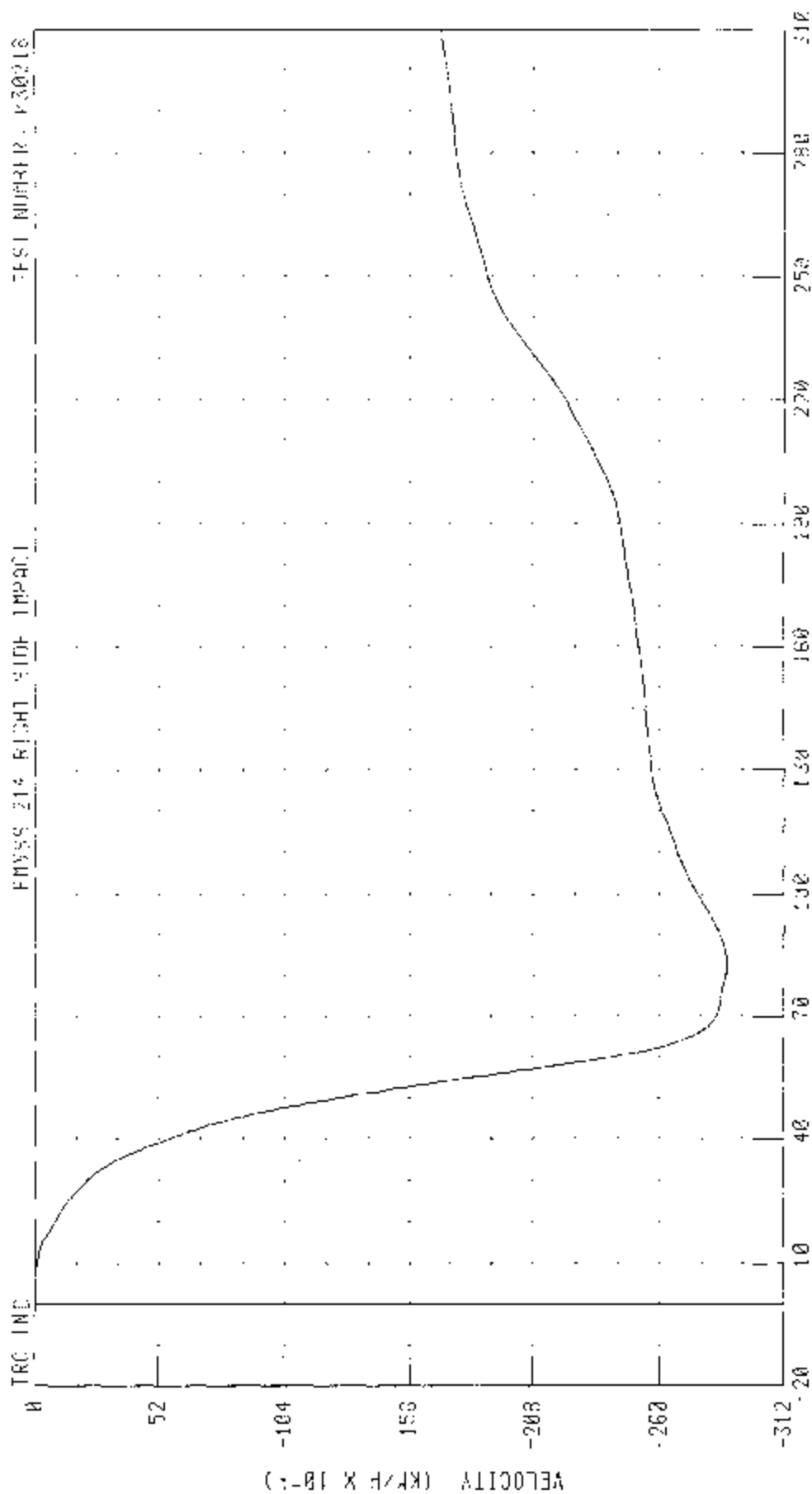
PEAK DATA: 4.24 G @ 230.48 MS, -30.51 G @ 58.16 MS

48/24 KPH 90 DEGREE SIDE IMPACT (MOVING AFFORDABLE SUBURBAN INTO LIGHT SUT OF 2007 SUBURBAN RPO)

RIGHT REAR PASSENGER BELT'S Y-AXIS REDUNDANT VELOCITY

FMVSS 214 RIGHT SIDE IMPACT

TEST NUMBER: P30218



TIME (MS)

PFER DATA: 0.00 KM/H 0 0 60 MS, -28 70 KM/H 0 60 24 MS

CHANNEL: PEVYK FILTER: C5 CLASS: 180

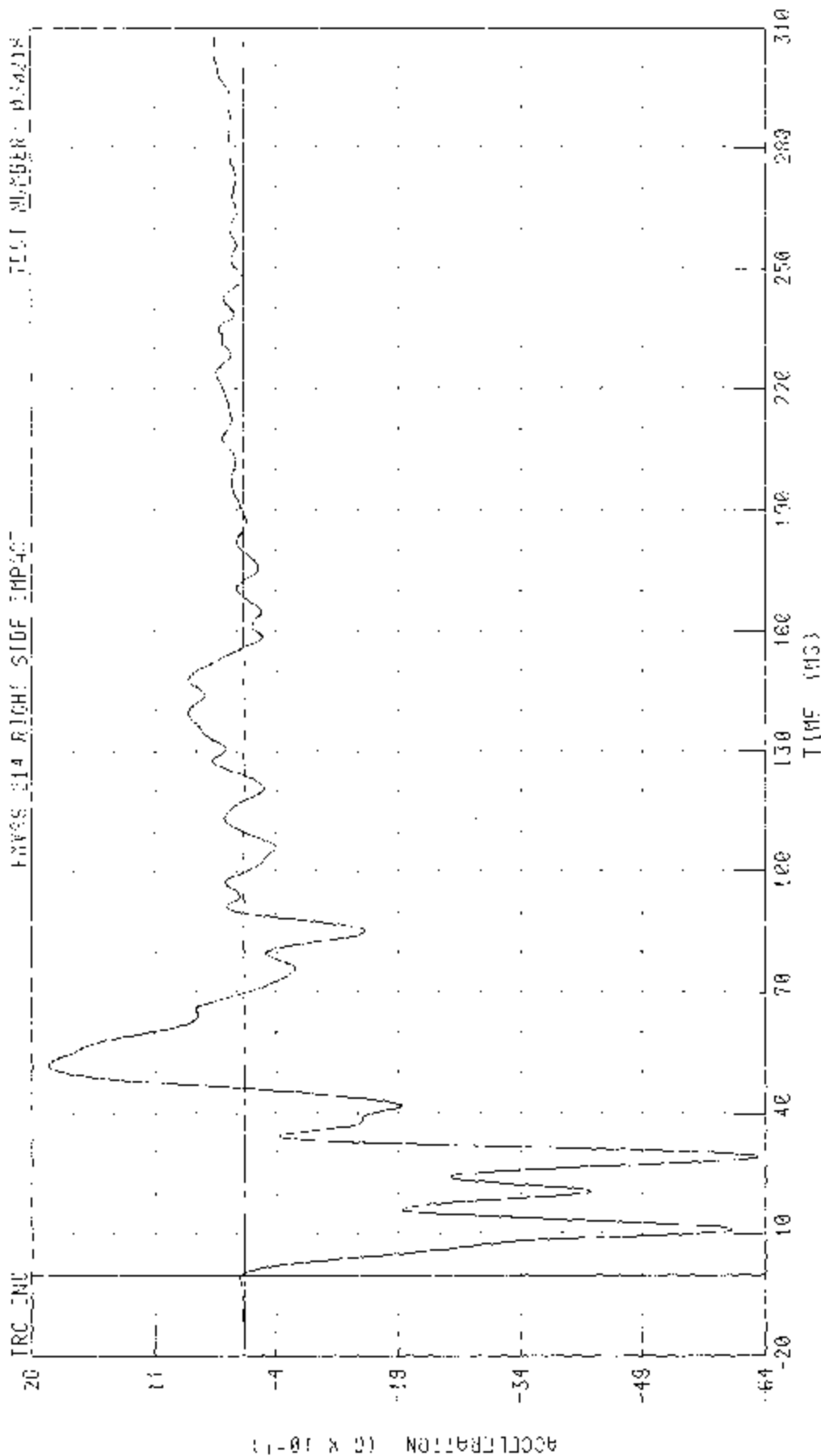
Test Vehicle Instrumentation Plots

Acceleration Data - Filter Class 60

Integration Data - Filter Class 180

18.24 MPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE ANVIL) INTO RIGHT SIDE OF 2000 S BARNH DATA

LEFT SIDE SII OF FRONT SEAT Y-AXIS ACCELERATION

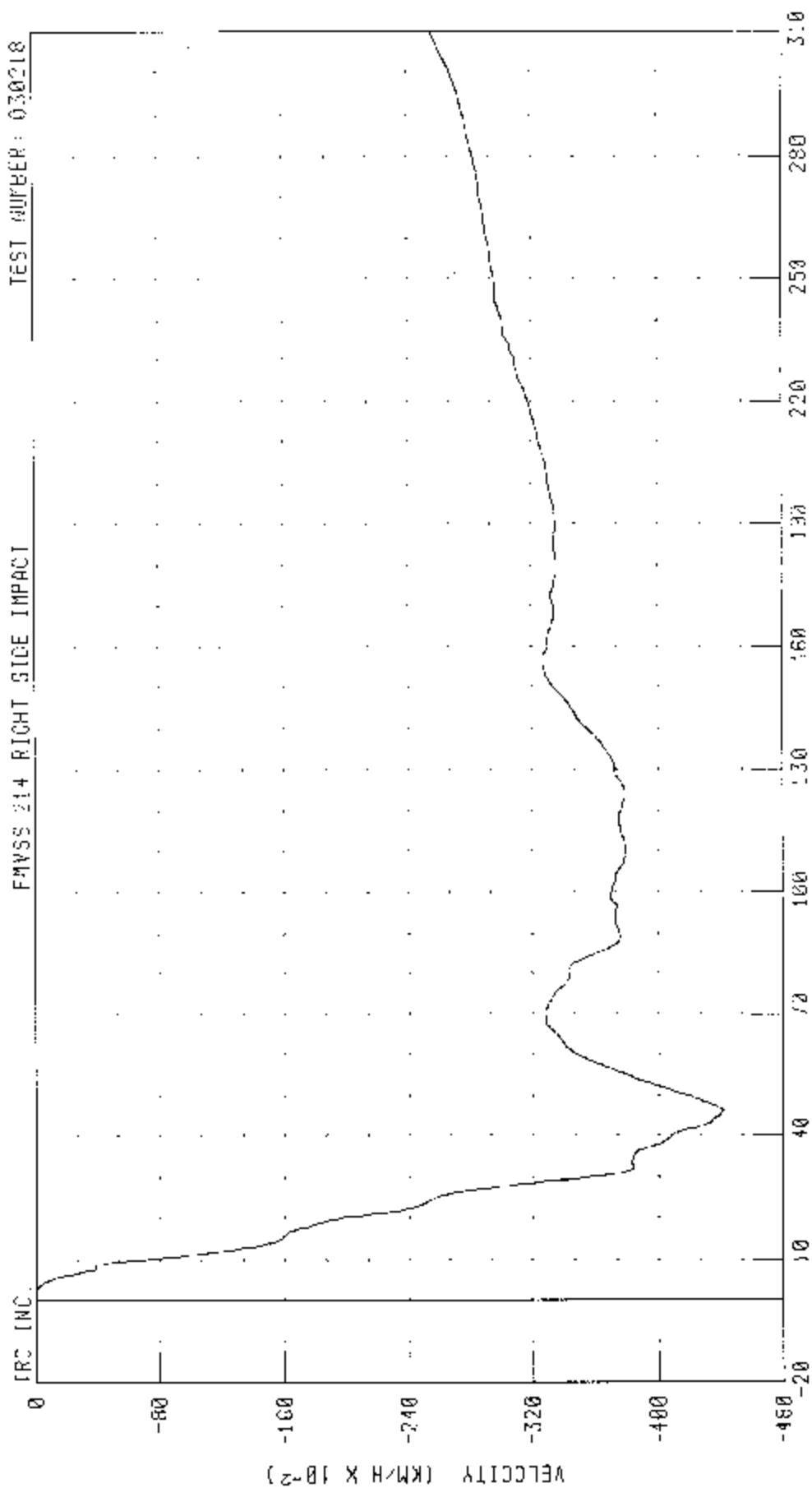


48/24 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO RIGHT SIDE OF 2003 SUBARU RAJA

LEFT SIDE SILENT FRONT SEAT X AXIS VELOCITY

TEST NUMBER: 030218

FMVSS 214 RIGHT SIDE IMPACT



TIME (MS)

PEAK DATA: 0 00 KPH @ 0 64 MS; -1 40 KPH @ 46.40 MS

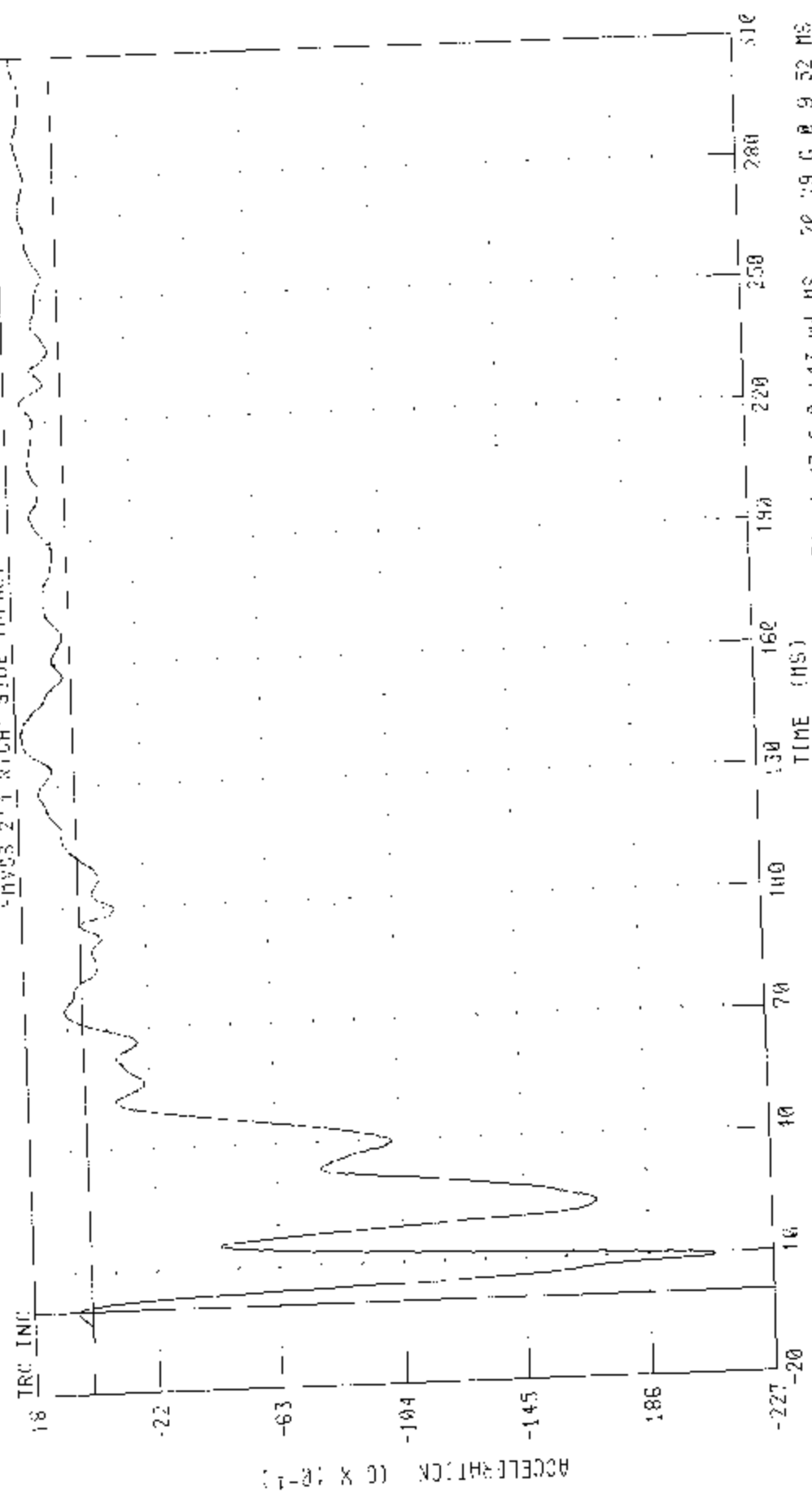
CHANNEL: LFSXV1 FILTER: C4 CLASS 100

48/24 KPH 50 MILES SIDE IMPACT (MOVING OFFSHORE BARRIER INTO RIGHT SIDE OF ROAD) SUBMIT 0006

LEFT SIDE SILL AT FRONT BEAT Y AXIS ACCELERATION

TEST NUMBER 030218

INSTRUMENT 211 HIGH SIDE IMPACT



PEAK DATA: 1.73 G @ 143 MS, 20.9 G @ 9.52 MS

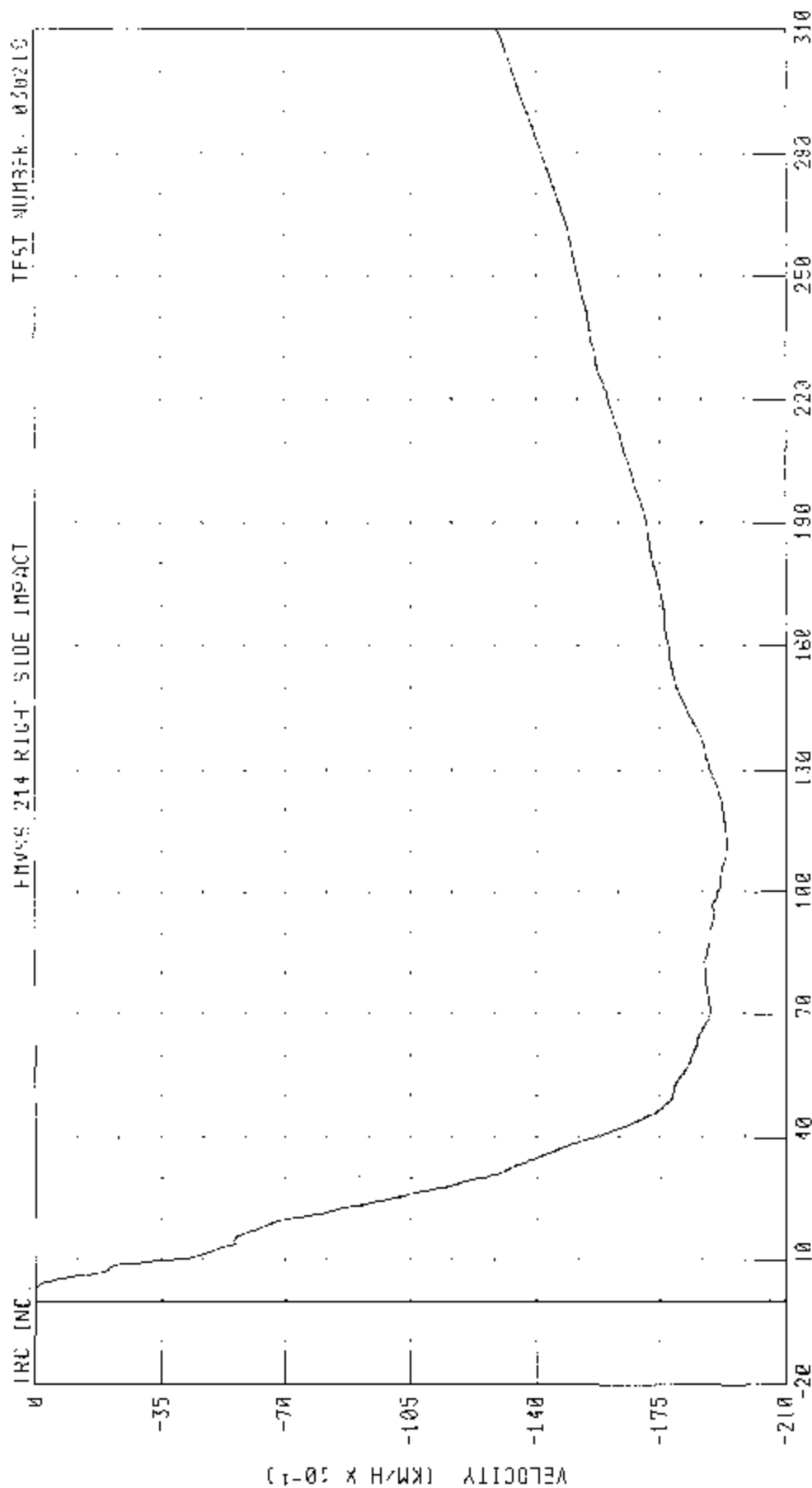
CHANNEL: LF2YC; FILTER: CN CLASS: CR

48/24 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO RIGHT SIDE OF 2003 SUBARU IMPACT

LEFT SIDE SHOCK FRONT SEAT X AXIS VELOCITY

FMVS 214 RIGHT SIDE IMPACT

TEST NUMBER: 030218



TIME (MS)

PEAK DATA: 0.00 KM/H @ 0.32 MS, 19.34 KPH @ 111.00 MS

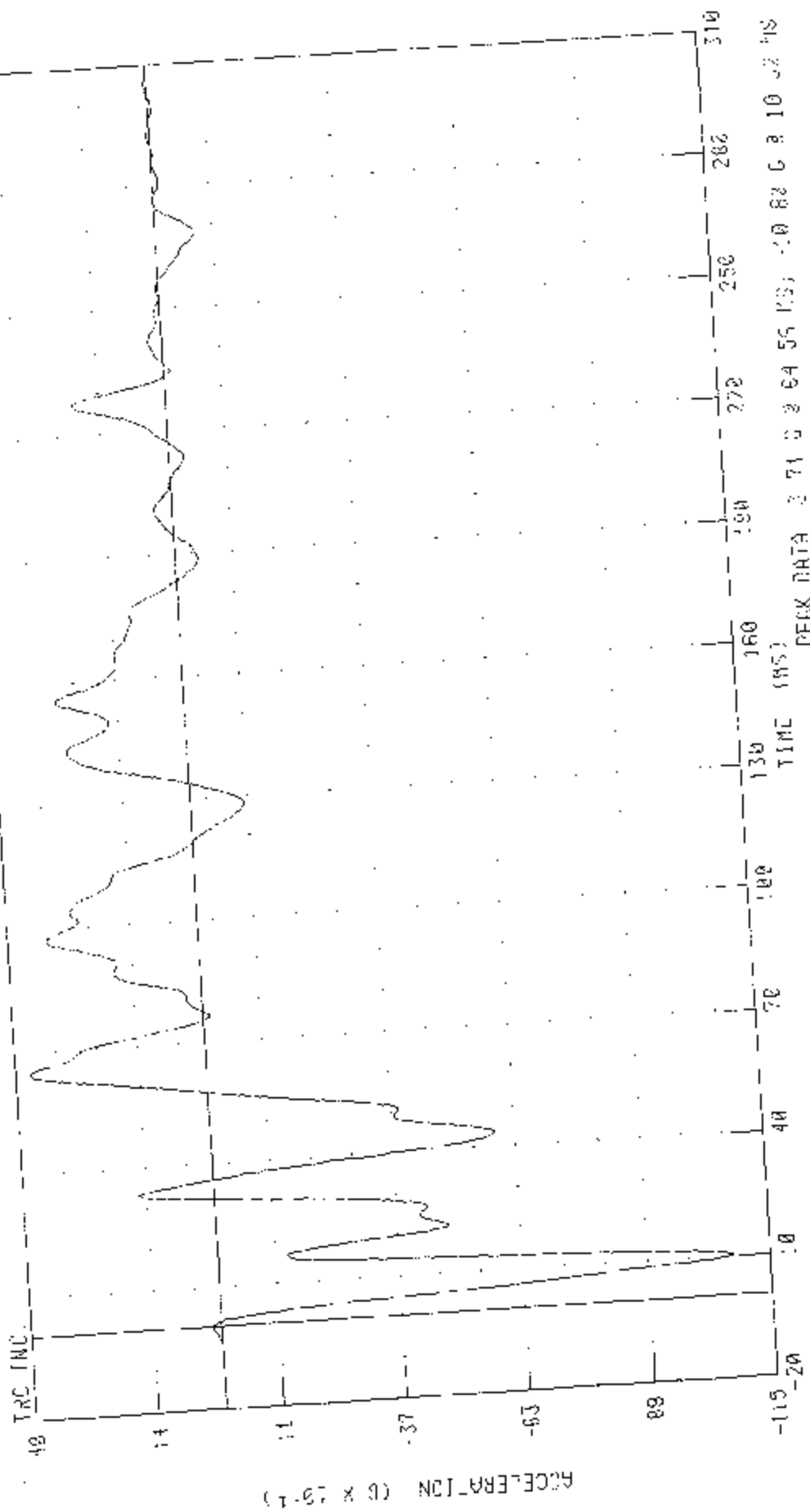
CHANNEL LFSYV1 FILTER: CH. CLASS 180

48/24 KPH 00 DEFLECT SIDE IMPACT IMPACT DEFORMABLE BARRIER INTO RIGHT SIDE OF 2003 SUBURBU 5816

TEST NUMBER: 030218

DEFLECT SIDE SILL A. FRONT SPAT / 4-418 ACCELERATION

INVEST 214 RIGHT SIDE IMPACT



CHANNEL L58701 FILTER: 0.1 CLASS 50

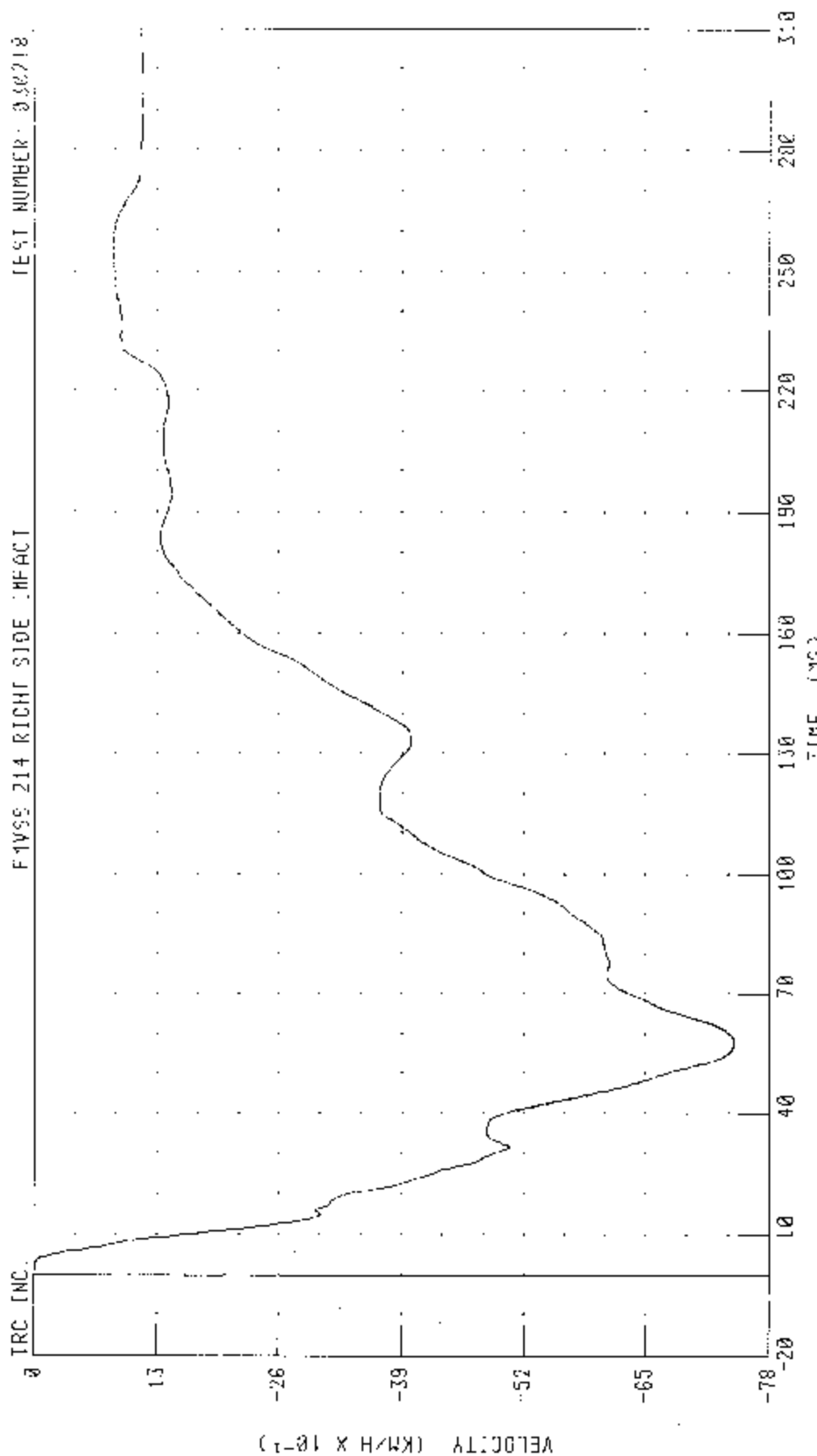
030218

48/24 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO RIGHT SIDE OF 2207 SUEARU BAJA

LEFT SIDE SILL AT FRONT SEAT Z-AXIS VELOCITY

F1VSS 214 RIGHT SIDE IMPACT

TEST NUMBER: 030218



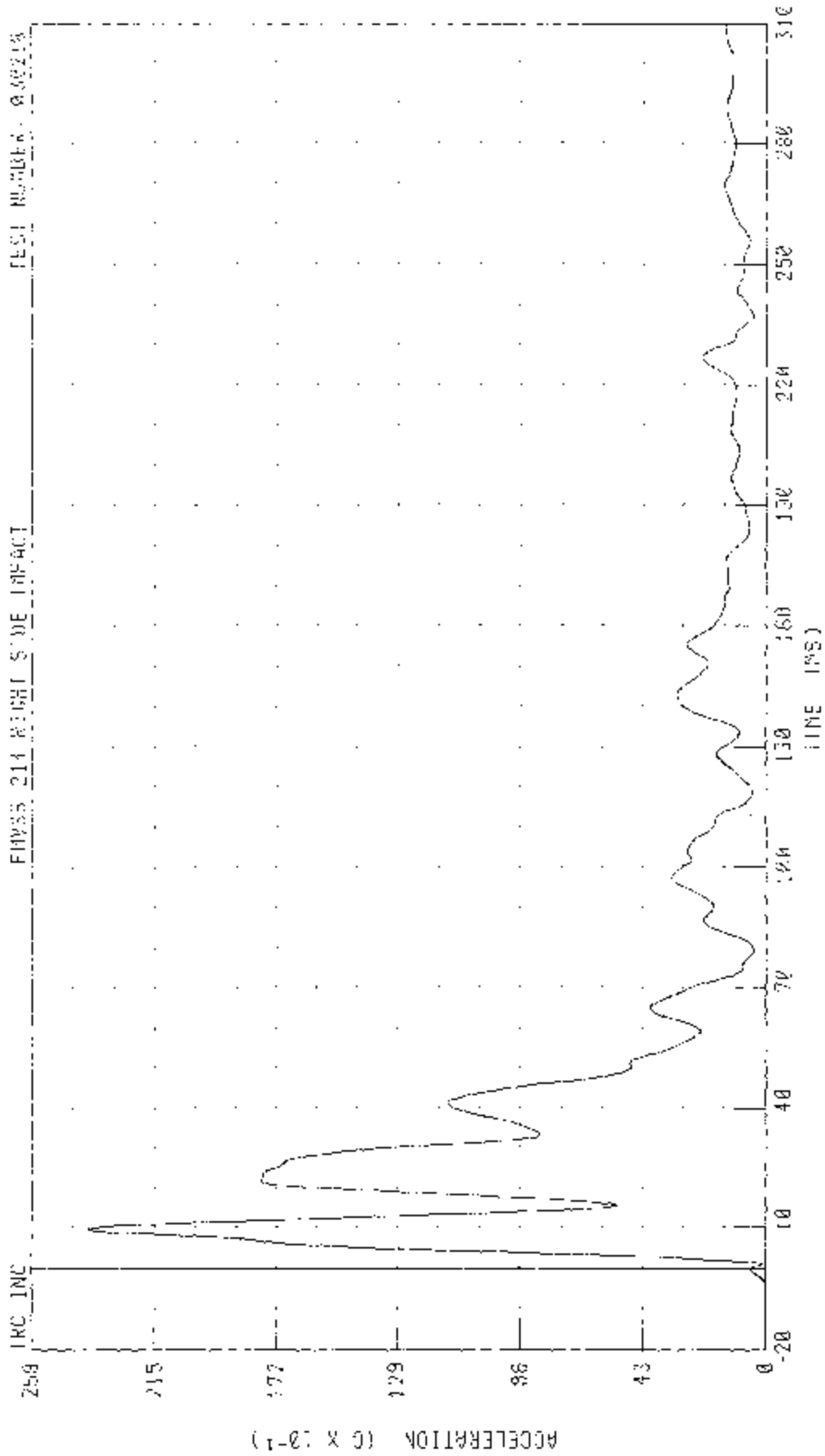
CHANNEL: F1VSS 214

FILTER: CH. CLASS 180

TIME (ms)

PEAK DATA: 0.30 km/h @ 6.00 ms, -7.43 km/h @ 58.00 ms

46/74 MPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO RIGHT SIDE OF 20AS SUPERBU 2000
LEFT SIDE SILL AT FRONT SEAT RESULTANT ACCELERATION



CHANNEL: C15R01 FILTER: CH CLASS 60 PEAK DATA: 23.66 G @ 9.60 MS, 0.01 G @ -13.63 MS

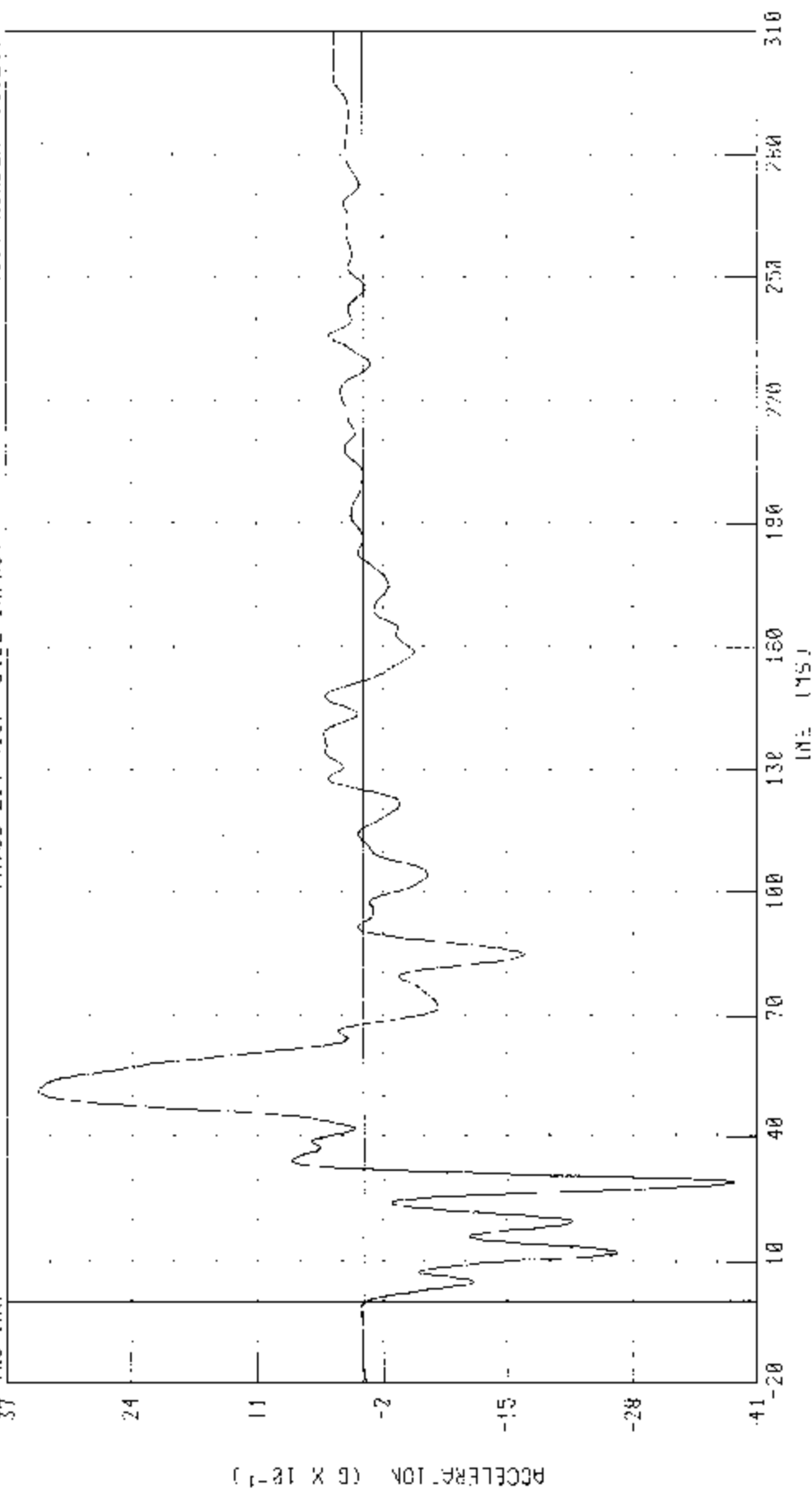
48/24 KPH 90 DEGREE SIDE IMPACT -MOVING DEFORMABLE BARRIER) INTO RIGHT SIDE OF 2007 SUBARU BEA

LEFT SIDE SILL AT REAR SEAT X AXIS ACCELERATION

TRC INC

ENVSS 214 RIGHT SIDE IMPACT

TEST NUMBER 030218



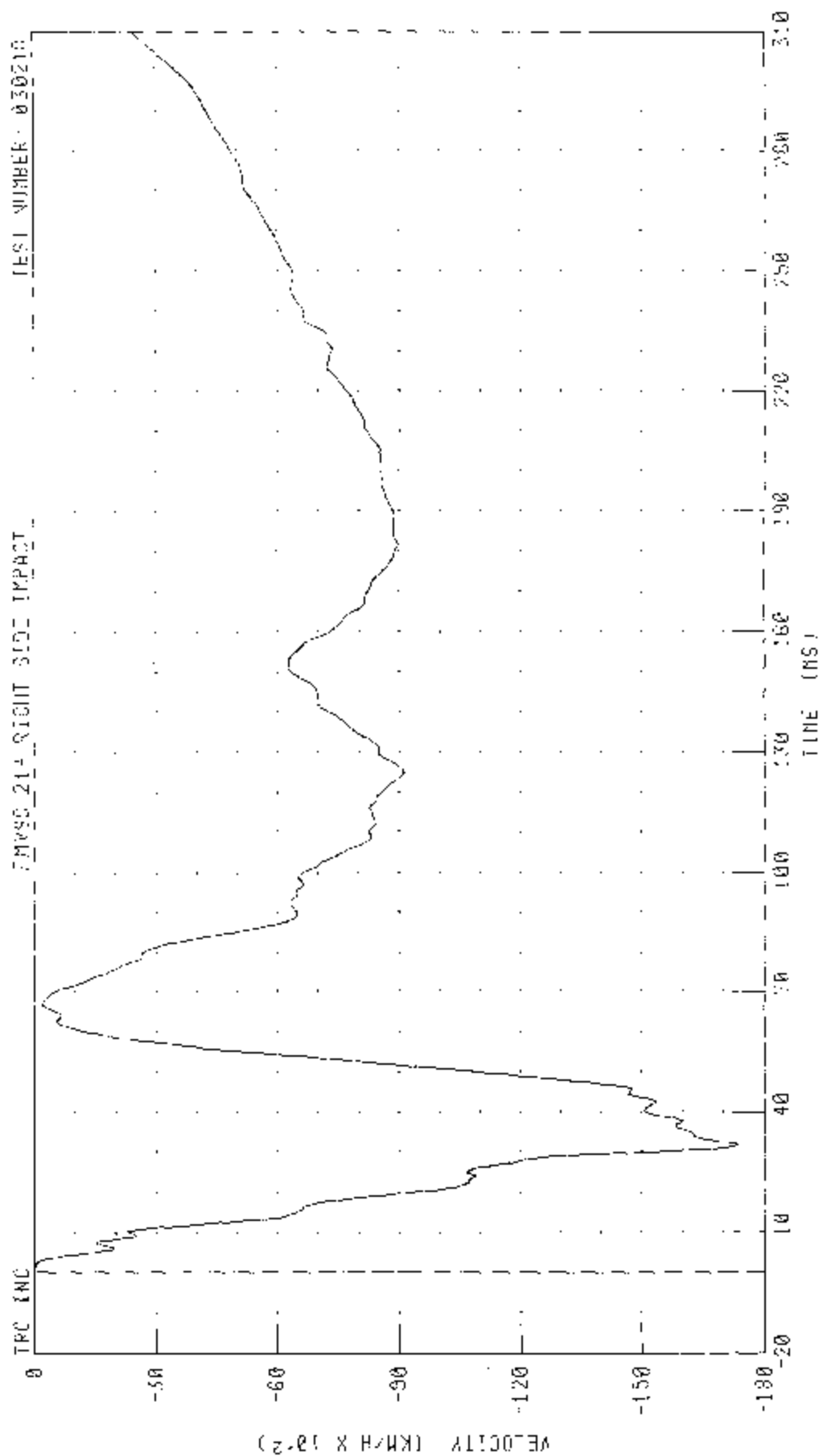
CHANNEL: LRSXG1 FILTER: CH. CLASS 60

LINE (175)

PEAK DATA 3.38 G @ 51.44 MS; -3.86 G @ 29.28 MS

48/24 MPH 90 DEGREE SIDE IMPACT MOVING DEFORMABLE BARRIER: INTO RIGHT SIDE OF 2003 SUBARU B40

LEFT SIDE SILL W/ REAR SEAT X AXIS VELOCITY



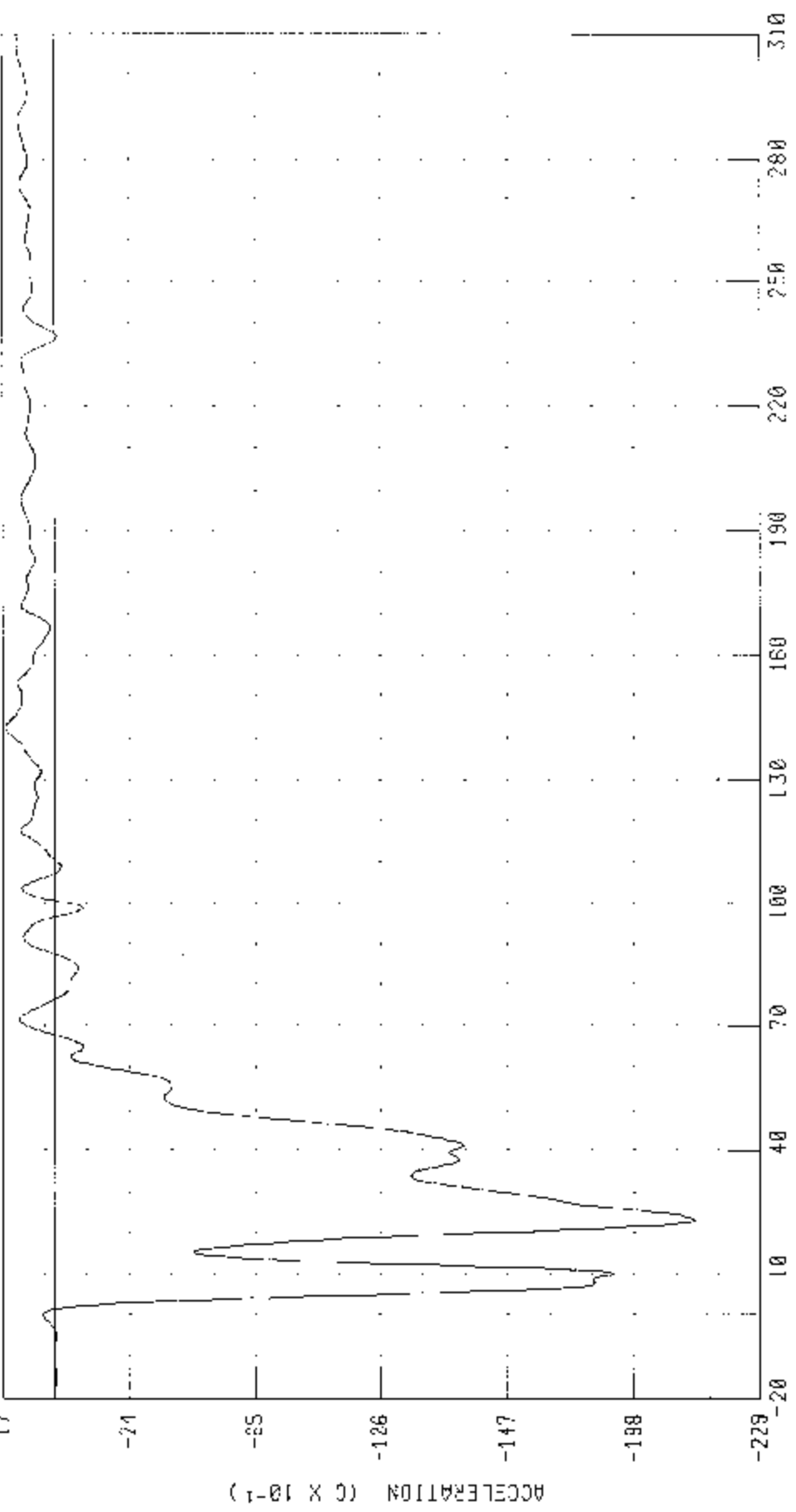
PEAK DATA: 3.00 KM/H @ 0.20 MS, 1.74 KM/H @ 31.52 MS

CHANNEL: LRSXVI FILTER: CH. CLASS: 180

48/24 4PH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO RIGHT SIDE OF 2003 SUBARU EA IF

LEFT SIDE SII - AT REAR SEAT Y-AXIS ACCELERATION

TRC INC. 17 EMVSS 214 RIGHT SIDE IMPACT TEST NUMBER 030218



CHANNEL: LRSYCJ FILTER: CH CLASS 6B
PEAK DATA: 1.01 G @ 142.72 MS, -20.76 G @ 23.12 MS

18/21 4PH 92 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO RIGHT SIDE OF 1003 SUBRAU ECUJ

LEFT SIDE 501 FT REAR 901 Y-AXIS VELOCITY

TEST NUMBER 030218

FRYSS 214 RIGHT SIDE IMPACT

TRC INC.

0

-41

-82

-123

-164

-205

-246

-20

10

40

70

100

130

160

190

220

250

280

310

VELOCITY (KM/H X 10⁻¹)

TIME (MS)

PEAK DATE 0.00 K1/1 2 0 00 MS; -22.53 KM/H 0 68 10 MS

CHANNEL 1 RSV1 FILTER CH CLASS 180

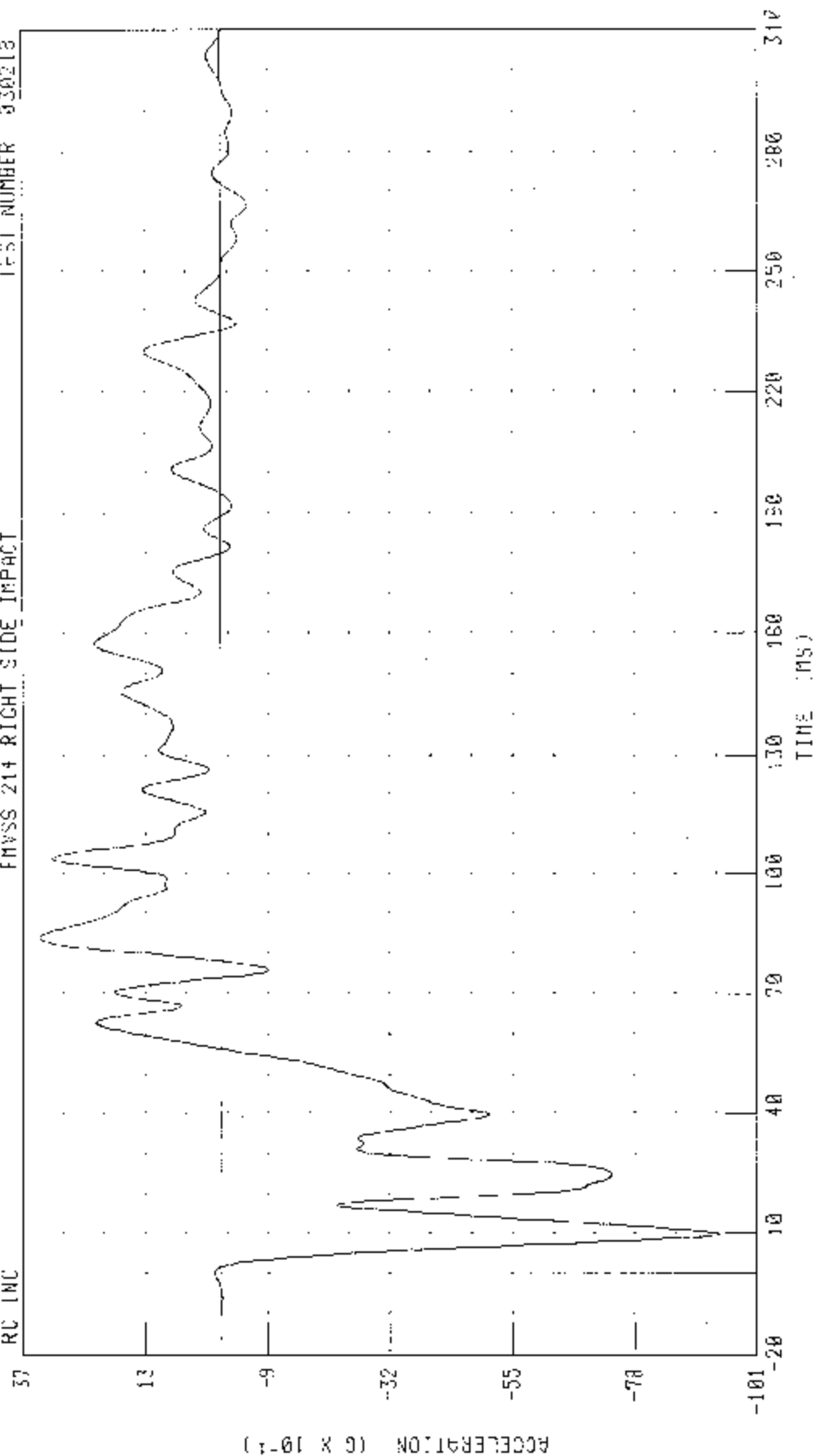
48/74 KFH 00 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO RIGHT SIDE OF THE SUBURBAN BAUA

LEFT SIDE SILL AT REAR SEAT 2 X'S ACCELERATION

TEST NUMBER 030218

FMVSS 214 RIGHT SIDE IMPACT

RC INC



CHANNEL: LRS201 FILTER CH. CLASS 00

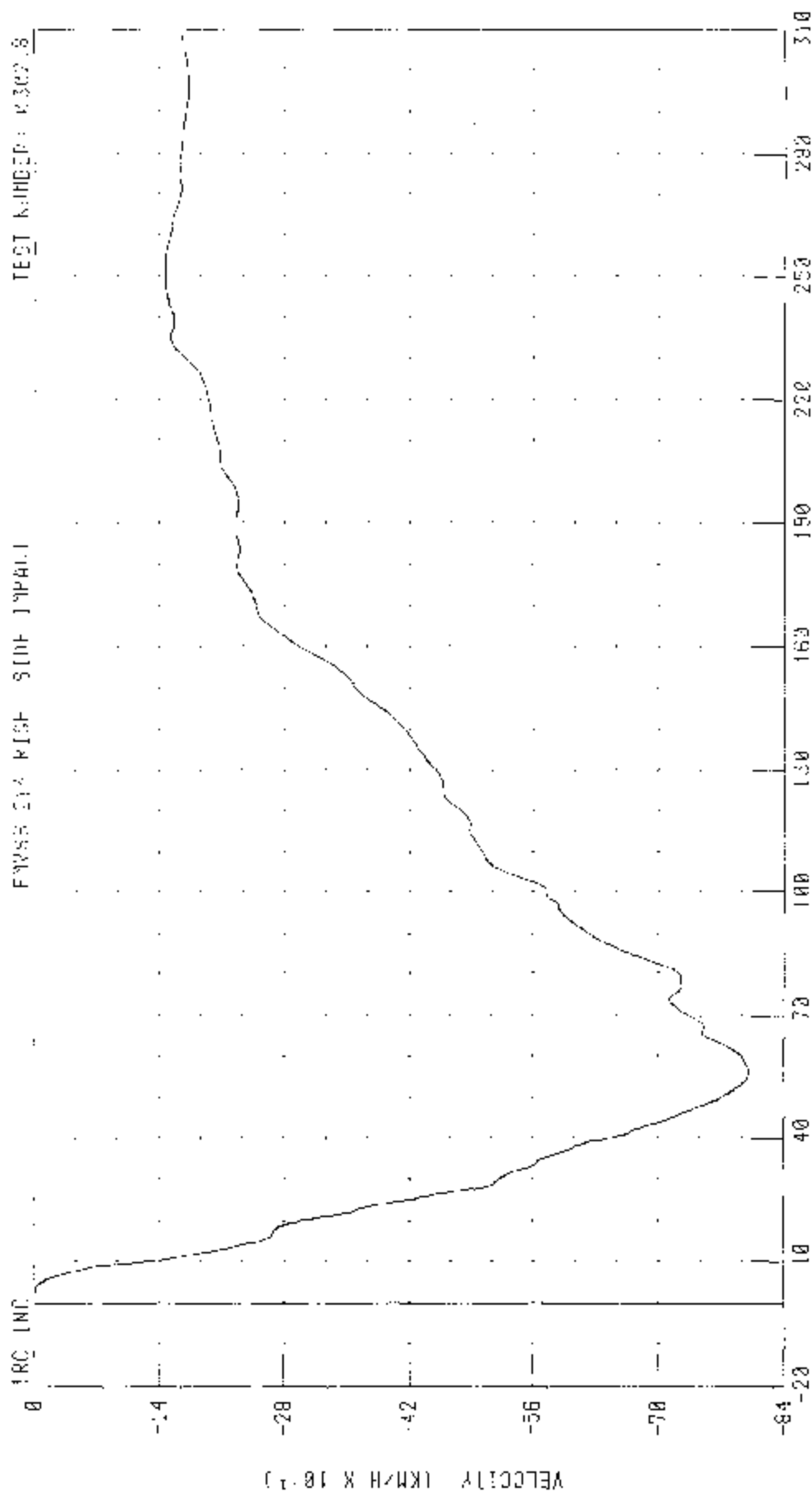
PEAK DATA 3 38 6 8 33 34 73, 9 40 6 8 9 58 MS

40-24 30H 90 DEGREE STOP IMPACT MOVING RECORDING PARALLEL TO RUSH, SIDE OF 2003 SUPERU RAIL

LEFT SIDE STOP IN RUSH SIDE 2 PASSES WITHIN 10'

FORWARD RUSH SIDE IMPACT

TEST NUMBER: K302.8

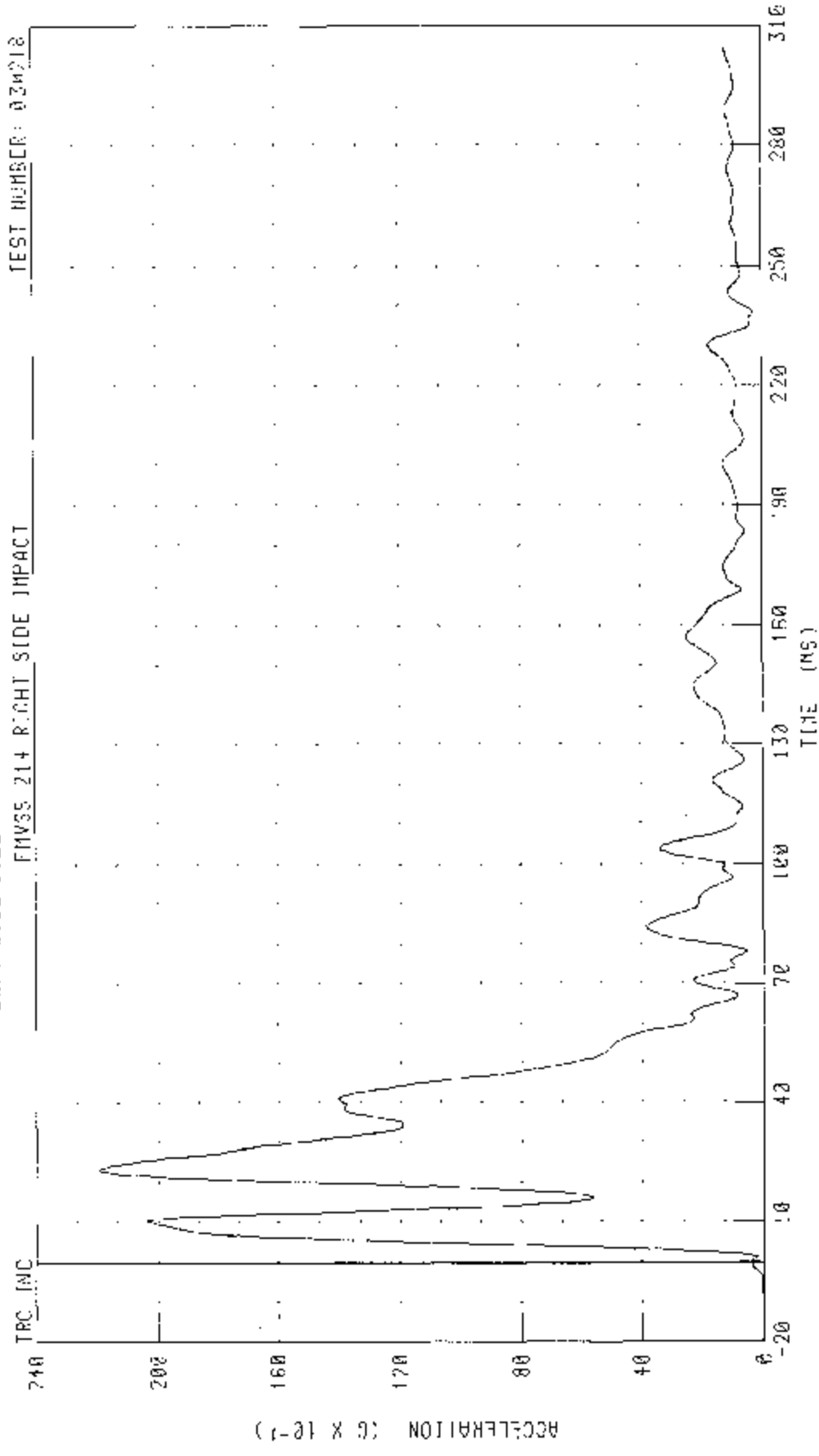


IMP 100

CHANNEL: LRS2Y1 FILTER: CH. CLASS 100

PEAK POSITION: 300 KPH @ 1.12 MS, -8.31 KPH @ 50.50 MS

48/24 KPH 30 DEGREE SIDE IMPACT MOVING DEFORMABLE BARRIER INTO RIGHT SIDE OF 2003 SEBUK RFA
 LEFT SIDE CILL AT REAR SEAT RESULTANT ACCEL FRCTION

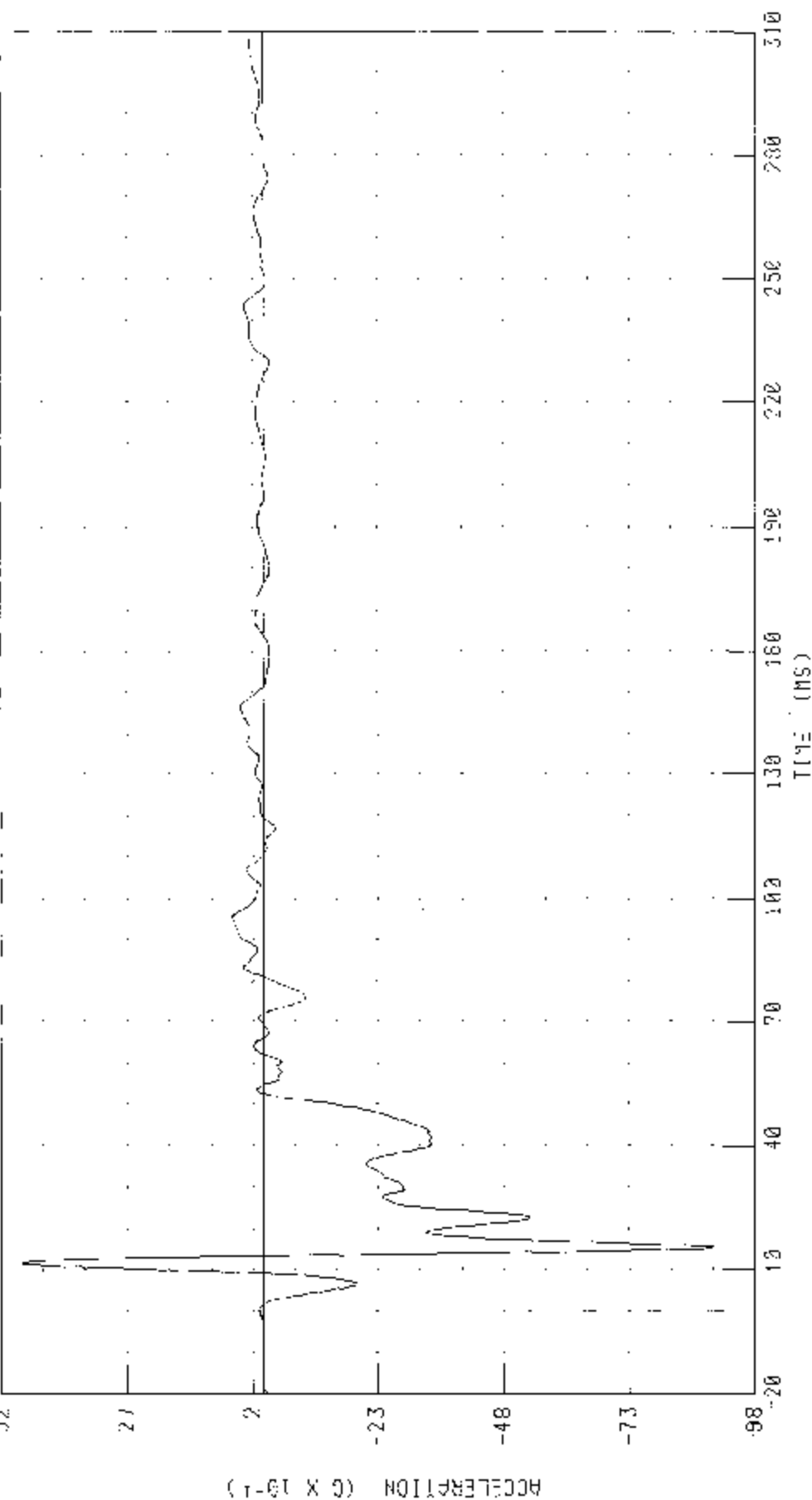


CHANNEL: LRSRG1 FILTER: CH. GLOSS 00 PEAK DATA 21.96 G @ 23.20 MS, 0.80 G @ -18.80 MS

48/24 KFH 90 DEGREE SIDE IMPACT MOVING DEFLECTABLE RIGIDLY INTO RIGID SIDE OF 2003 SUBARU 300H

REAR FLOORPDM ABOVE AXLE 5-AXIS ACCELERATION

52 IAC INC. 21 2 23 48 73 98 -20 TIME (MS) 2000 214 RIGHT SIDE IMPACT TEST NUMBER 000218

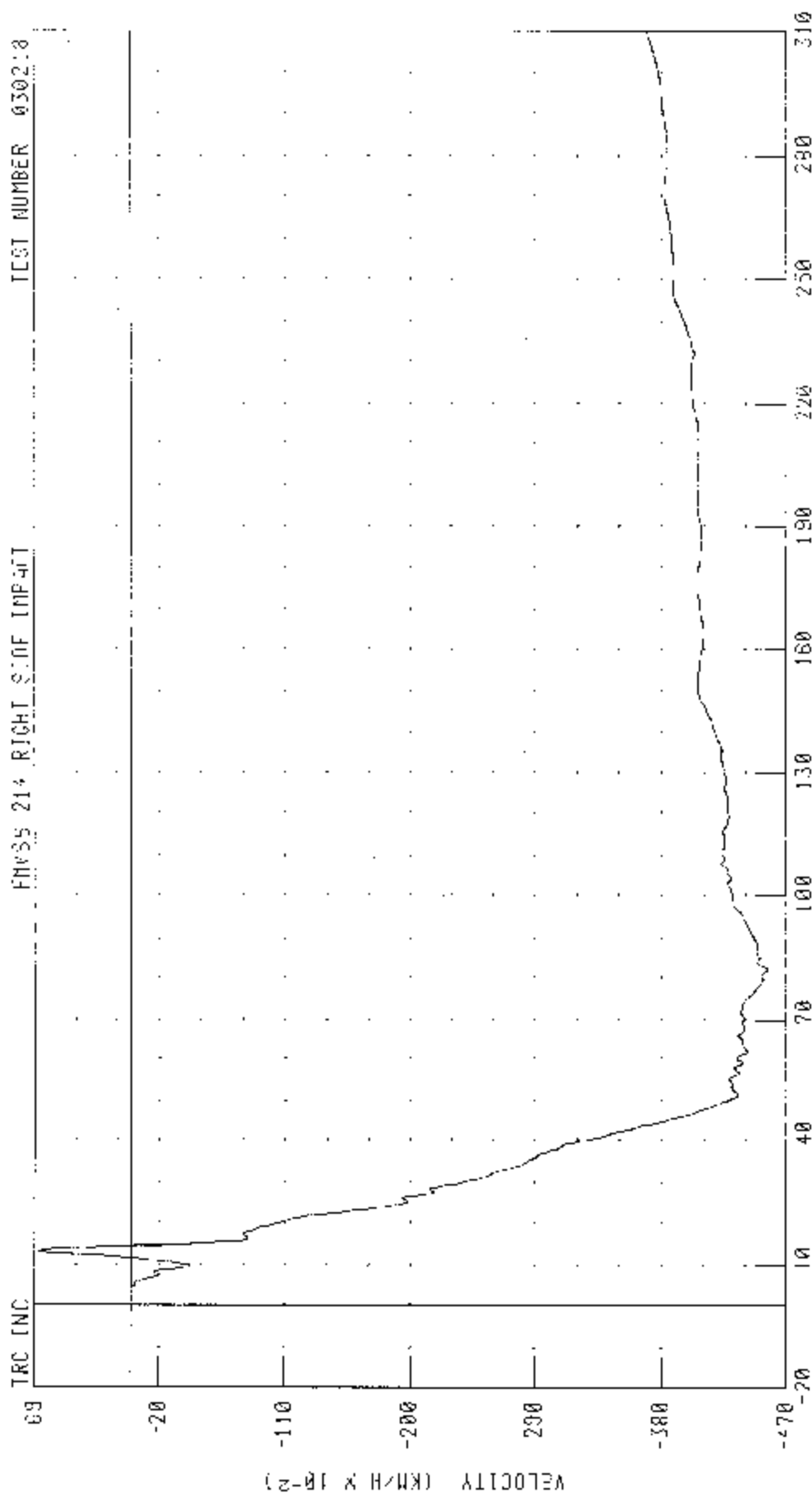


CHANNEL HDKX03 FILTER: CH. CLASS 60

PEAK DATA: 170 G @ 11.60 MS: -0.97 G @ 15.44 MS

48/24 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) IN C RIGHT SIDE OF 2003 SUBARU B4A

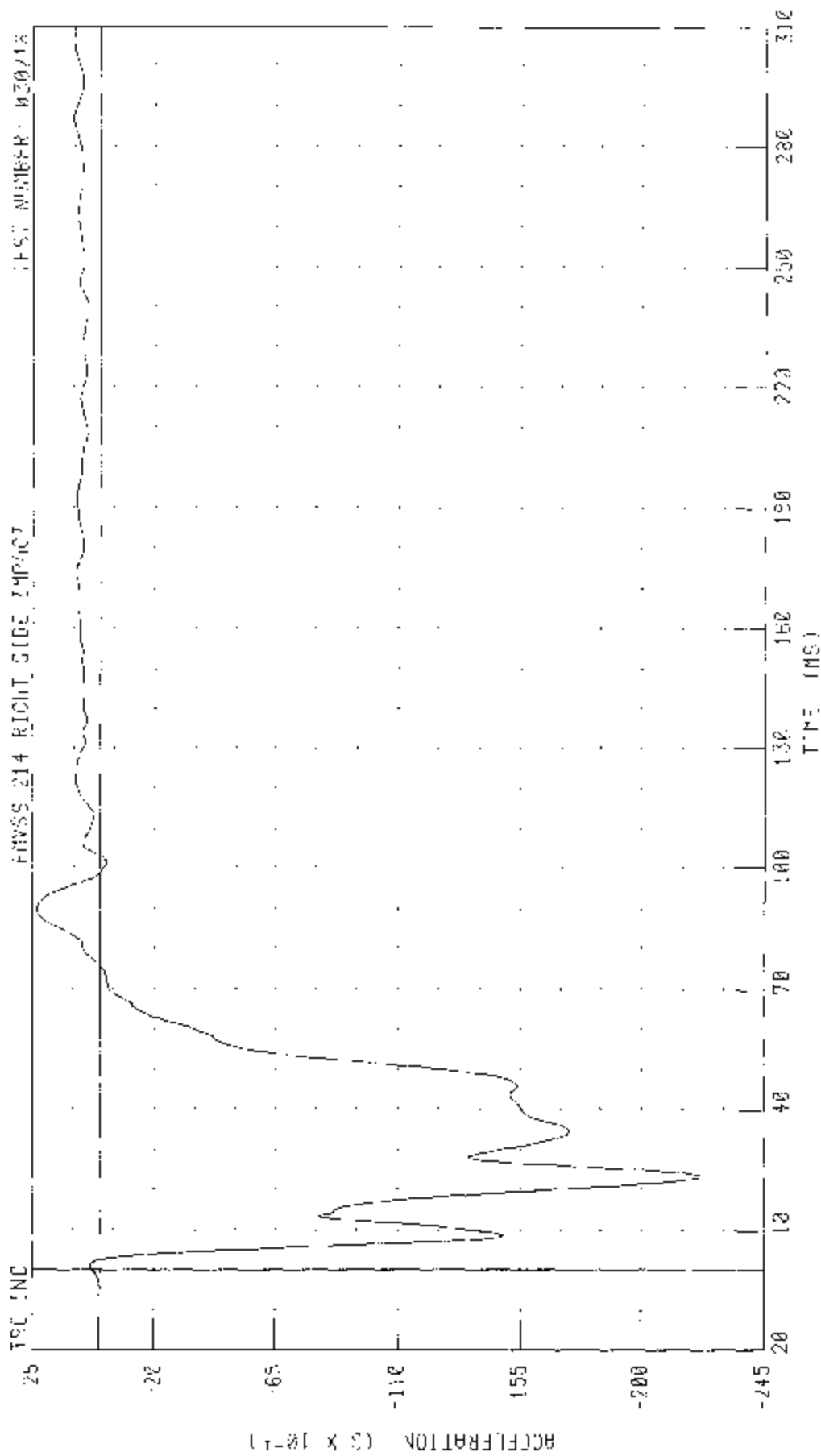
SEAR FLOORPAN ABOVE AXLE A-AXIS VELOCITY



CHANNEL: RDXV1 FLIER: CH CLASS 180 PFOK DATA: 0.67 KPH @ 13.76 MS, 4.57 KM/H @ 02.00 MS

40/20 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARREL - INFO RUSH) 310- OF 2003 SUBNOJ 360H

REAR FLOORPAN CRASH AXES 7-AXIS ACCELERATION



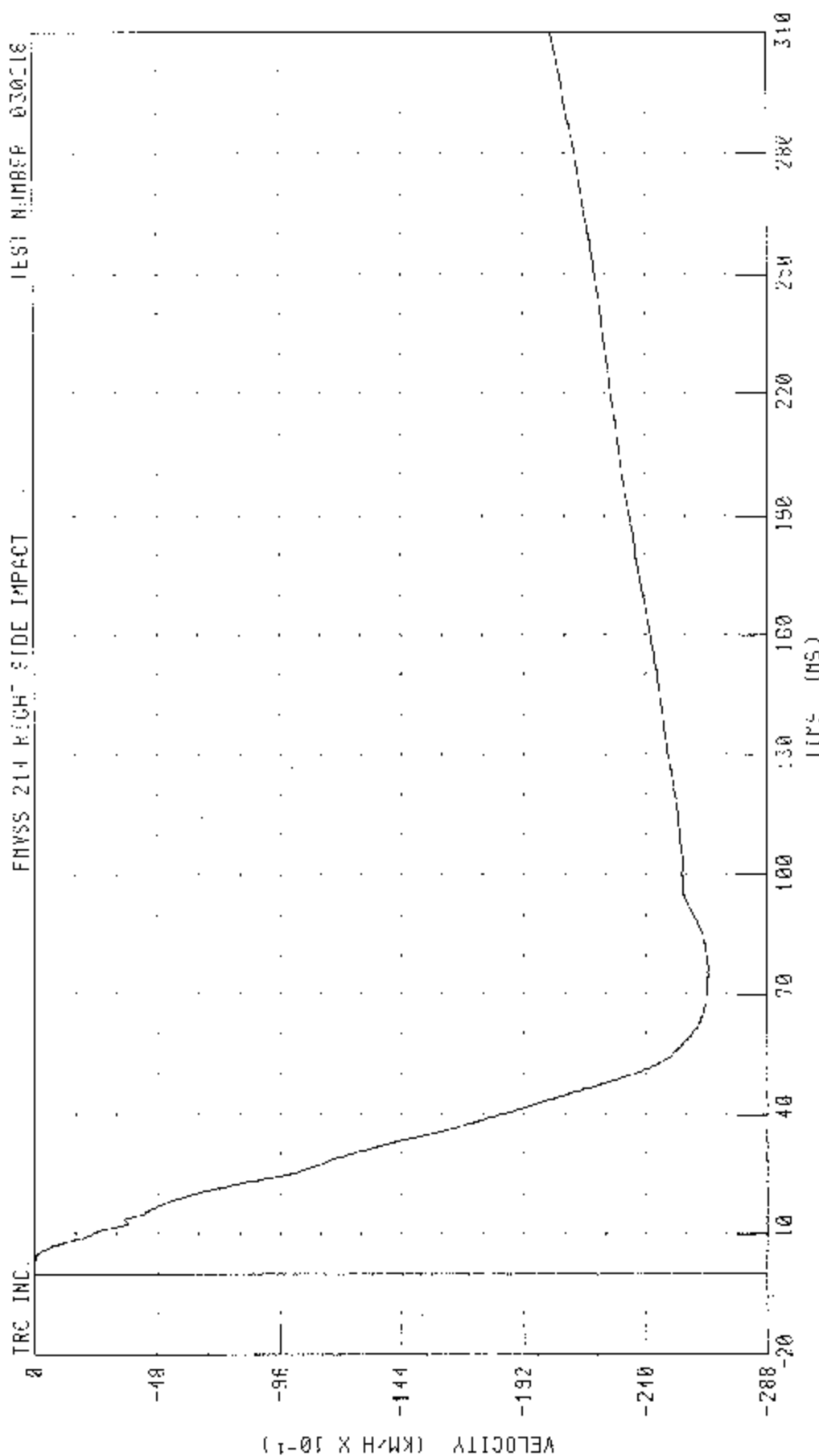
CHANNEL: RCKYG1 FILTER: CH CLASS: 30

PEAK DATA: 2.33 0 0 99 99 MS: -90 22 0 0 23 20 MS

43/24 KPH 30 DEGREE SIDE IMPACT (MOVING: BARRIER) INTO RIGHT SIDE OF 2033 SLABW: R412

RUN# FLOOR#AN REV#V# AX#E Y-AXIS VELOCITY

ENVS 214 RIGHT SIDE IMPACT	TEST NUMBER	030-18
1	030-18	030-18



CHANNEL RDKYV1 FILTER: CH CLASS 188

PEAK DATA: 0.00 XMIN @ 0.00 MS, 23.43 KHZ @ 275.16 MS

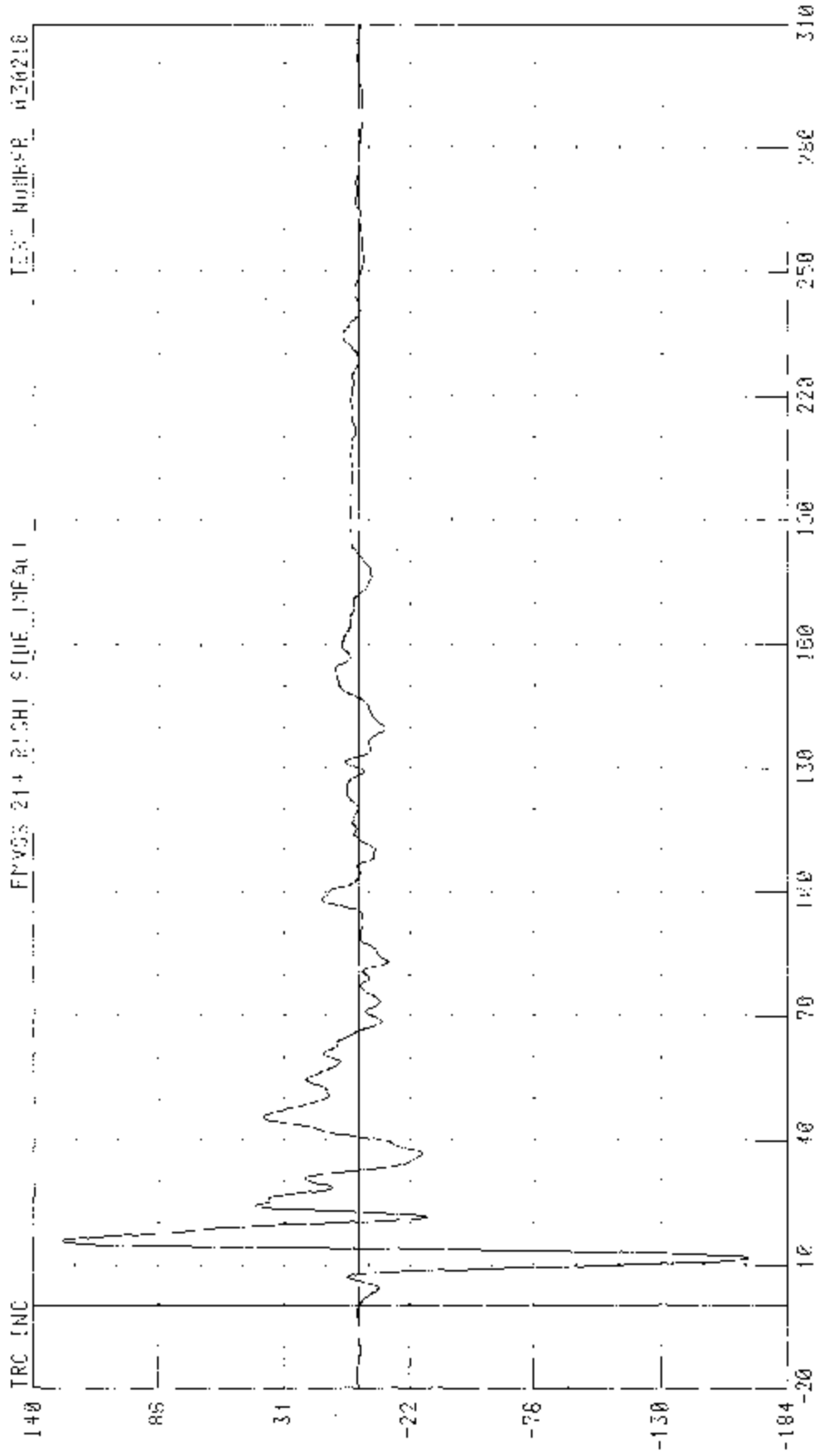
46/24 KPH 90 DEGREE SIDE IMPACT GIVING LATERAL FORCE INTO RIGHT SIDE OF VEHICLE 30 M

REAR FLOORPAN ABOVE 13.7 7-AXIS ACCELERATION

TEST NUMBER 030218

TRC INC

FMVS 21+ RIGHT SIDE IMPACT



ACCELERATION (G X 10⁻¹)

TIME (MS)

CHANNEL : R0K7G1

FILTER : CH CLASS 20

PLAK DATE 12.00 G 15 60 NS. 10 74 G 11 00 MS

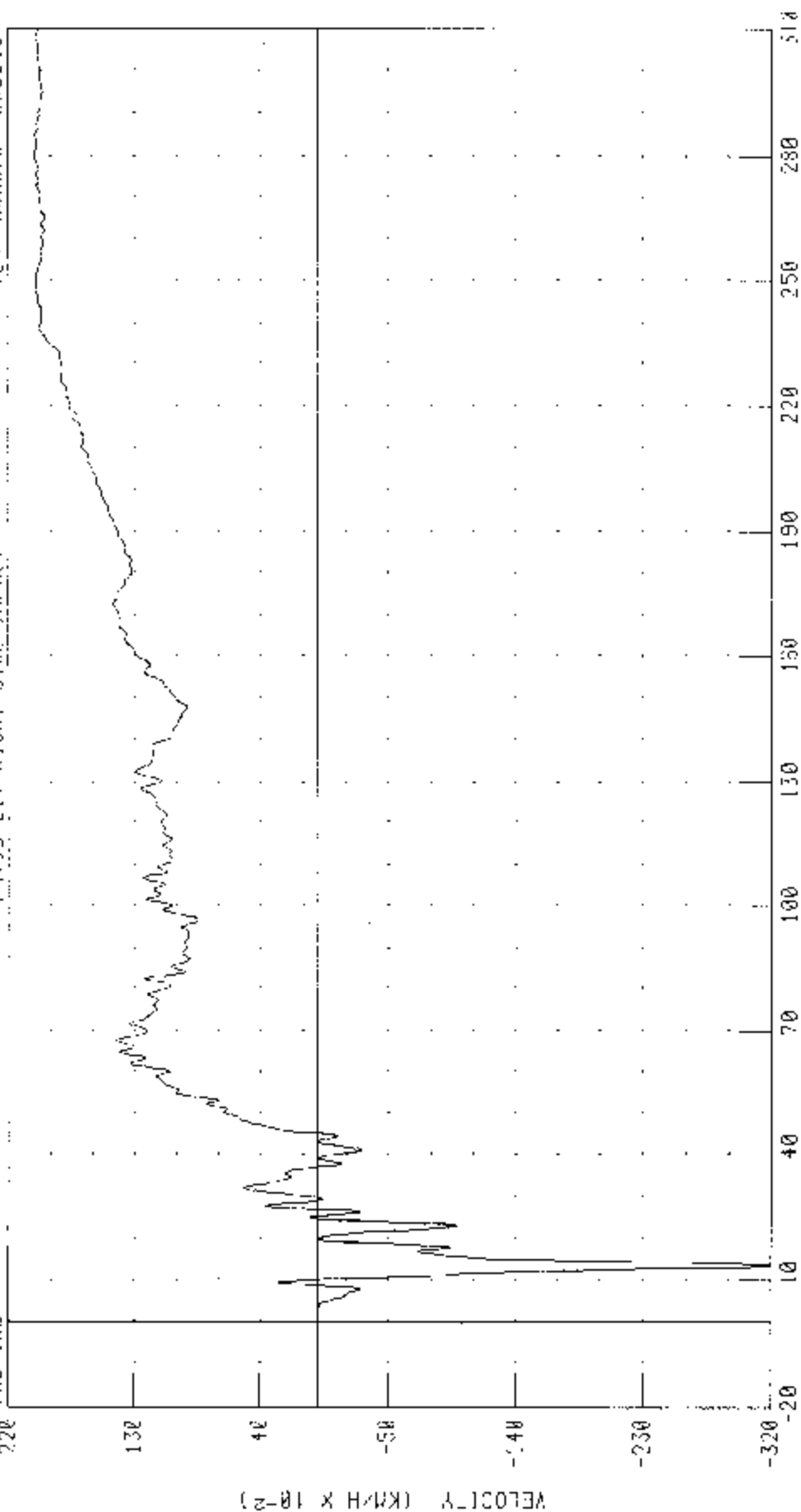
48/24 K24 90 DEGREE SIDE IMPACT (MOVING DEFURABLE BARRIER) INTO RIGHT SIDE OF 2805 SUGARBU CULV

REAR FLOORPAN ABOVE AXLE Z-AXIS VELOCITY

TRC INC

FMV33 214 RIGHT SIDE IMPACT

TEST NUMBER: 030218



TIME (MS)

PEAK DATA: 2 01 KM/H @ 280 96 MS. -3 25 K14 @ 13 75 MS

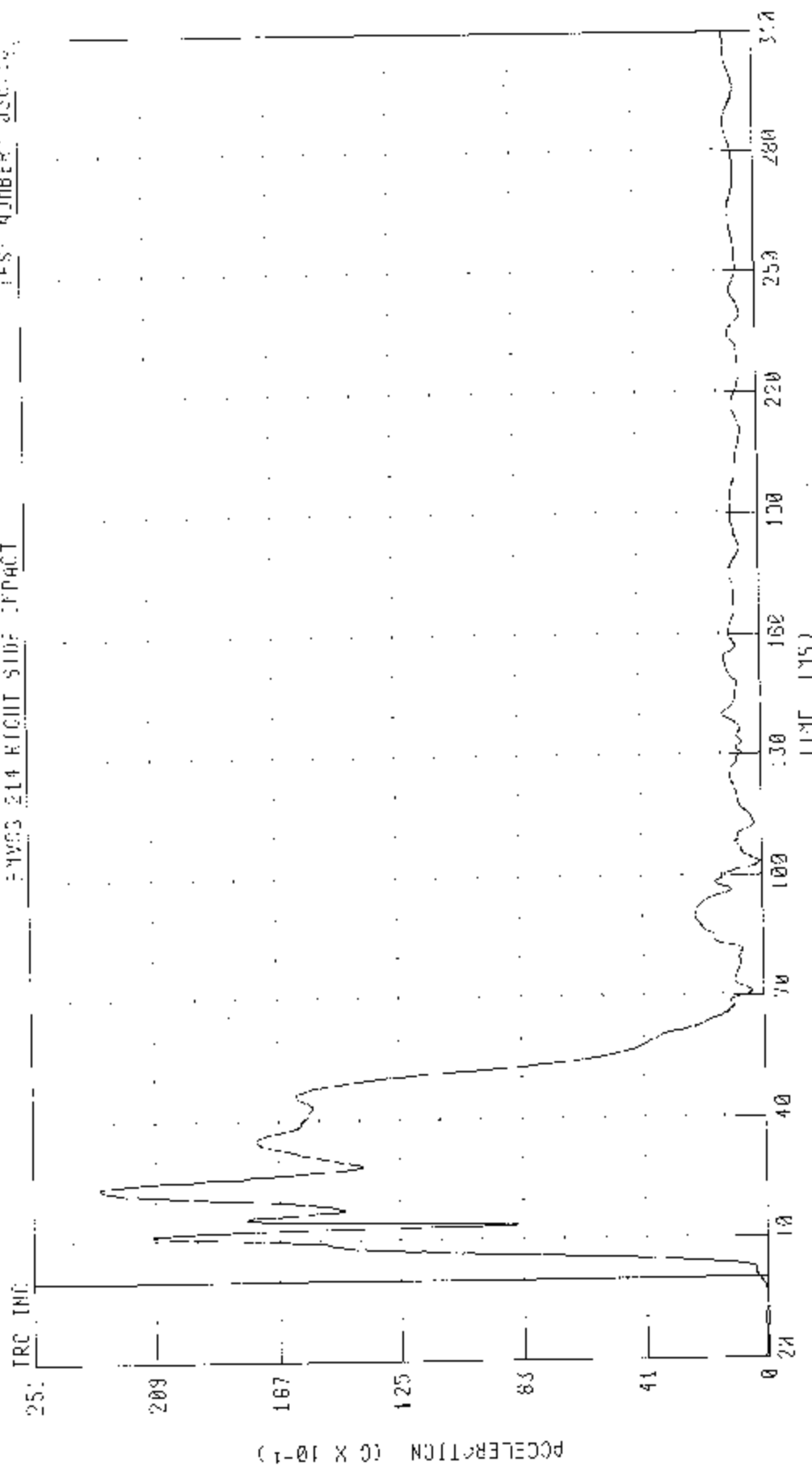
CHANNEL: RDKZY1 FILTER: C4 CLASS 100

48/24 RAY 90 DEGREE SIDE IMPACT MOVING OFFROAD - DROPPED INTO RUGGED SIDE OF ROAD 2400 2400

REAR TOWBAR GROUNDED AXLE REGULATION ACCIDENT

TEST NUMBER: 030218

TRUCK 214 RIGHT SIDE IMPACT



CHANNEL: RDRG1

FILTER: CH CLASS 60

PEAK DATA 22.92 G @ 23.96 MS, @ 21.5 G -7.36 MS

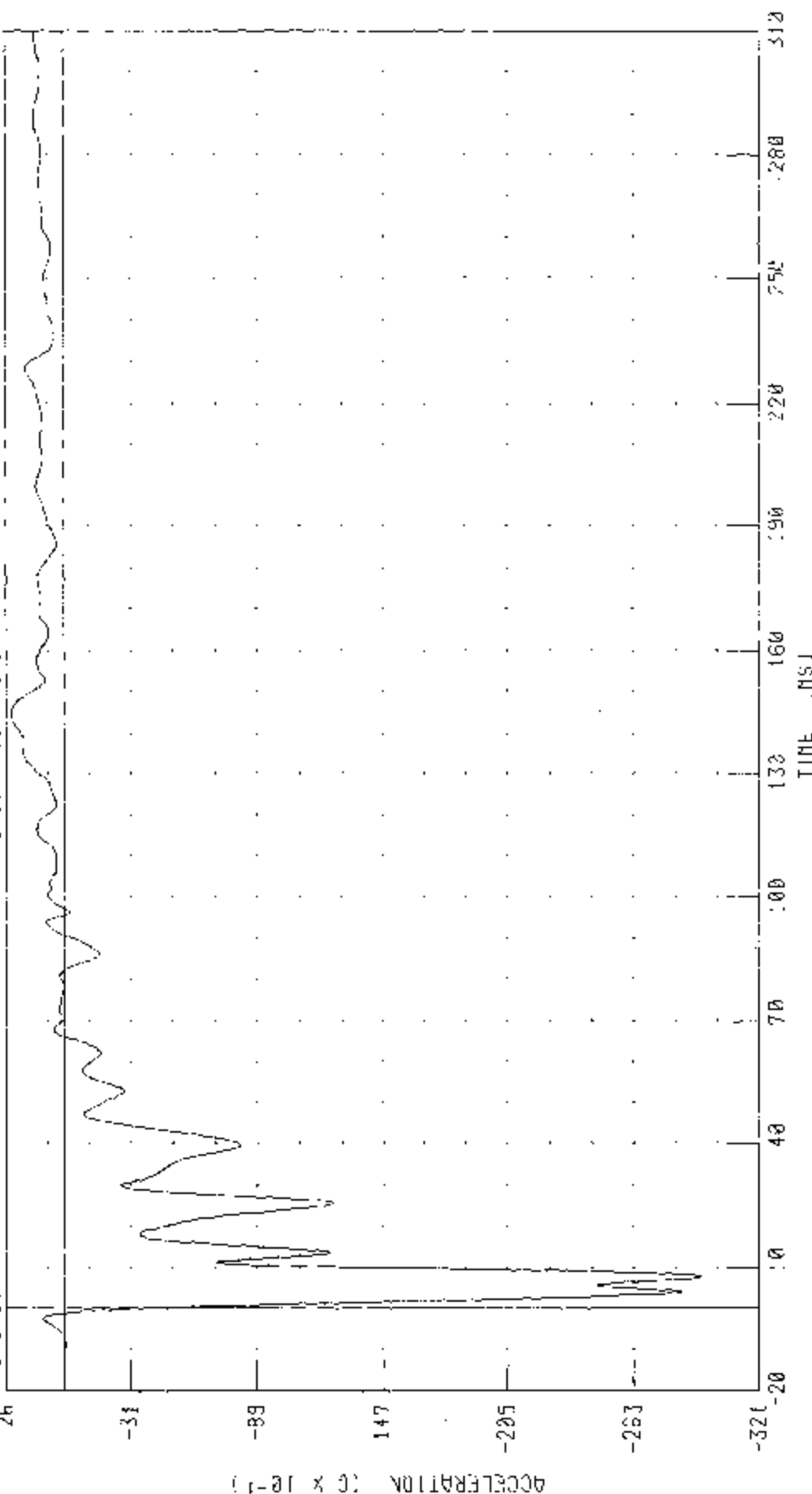
48/24 KPH 90 DEGREE SIDE IMPACT (MOVING DEFLECTABLE BARRIER) INTO WISHI SIDE OF 2003 SUZUKI BA A

RIGHT SIDE CELL AT FRONT STRUT Y-AXIS ACCELERATION

TEST NUMBER 030218

FMVSS 214 RIGHT SIDE IMPACT

TRC INC.

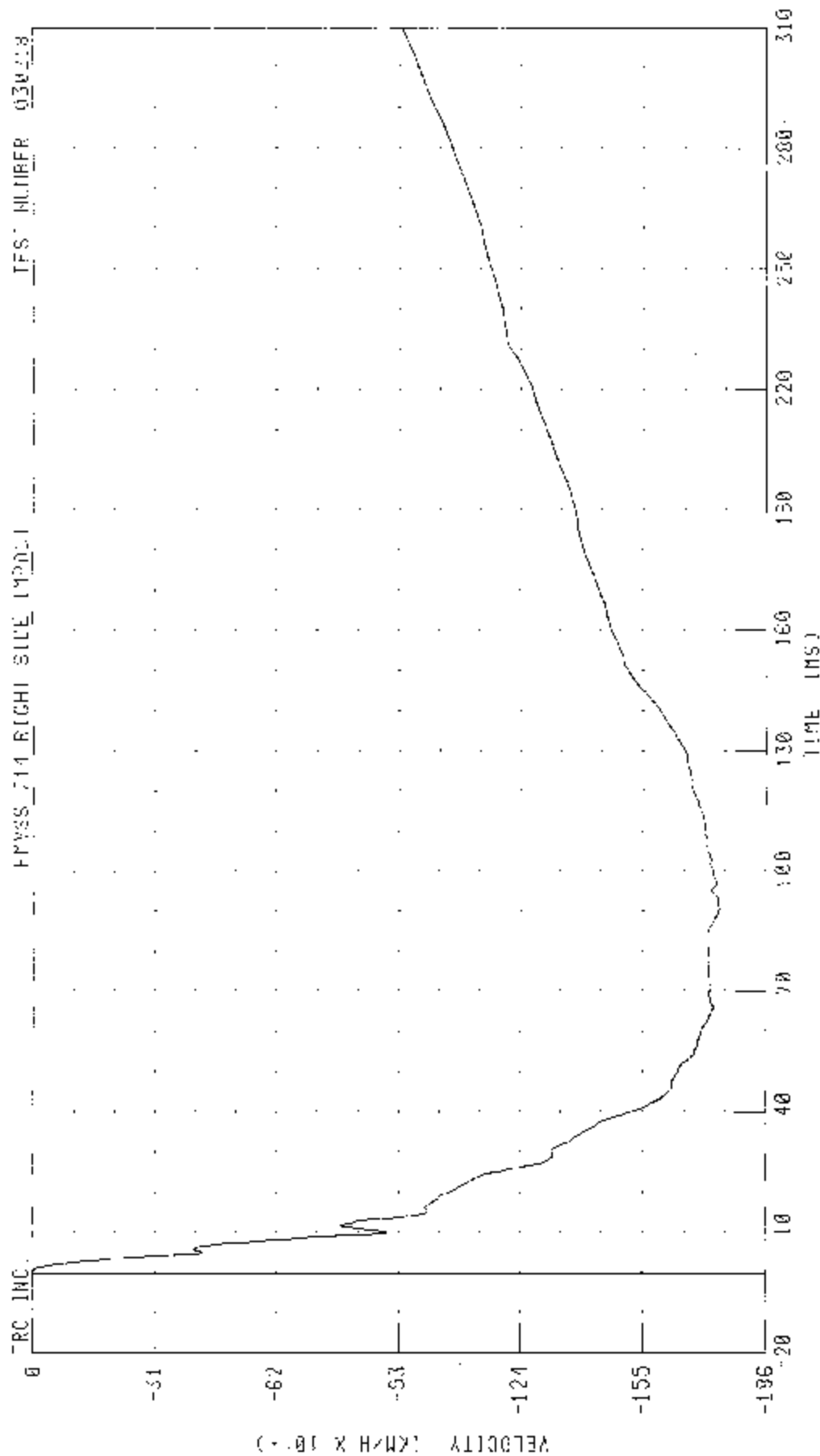


CHANNEL RFSYG1 FILTER CH. CLASS 00

PEAK DATA 2 40 0 0 147.06 MG, 20.44 0 0 7 92 MS

46/24 KPH 90 DEGREE SIDE IMPACT (MOVING DETECTABLE BARRIER) INTO RIGHT SIDE OF 2003 SUBARU DATA

CLASH SIDE SILENT FROM REAR PASSIVE SAFETY



CHANNEL RESYV1 FILTER CH CLASS 100

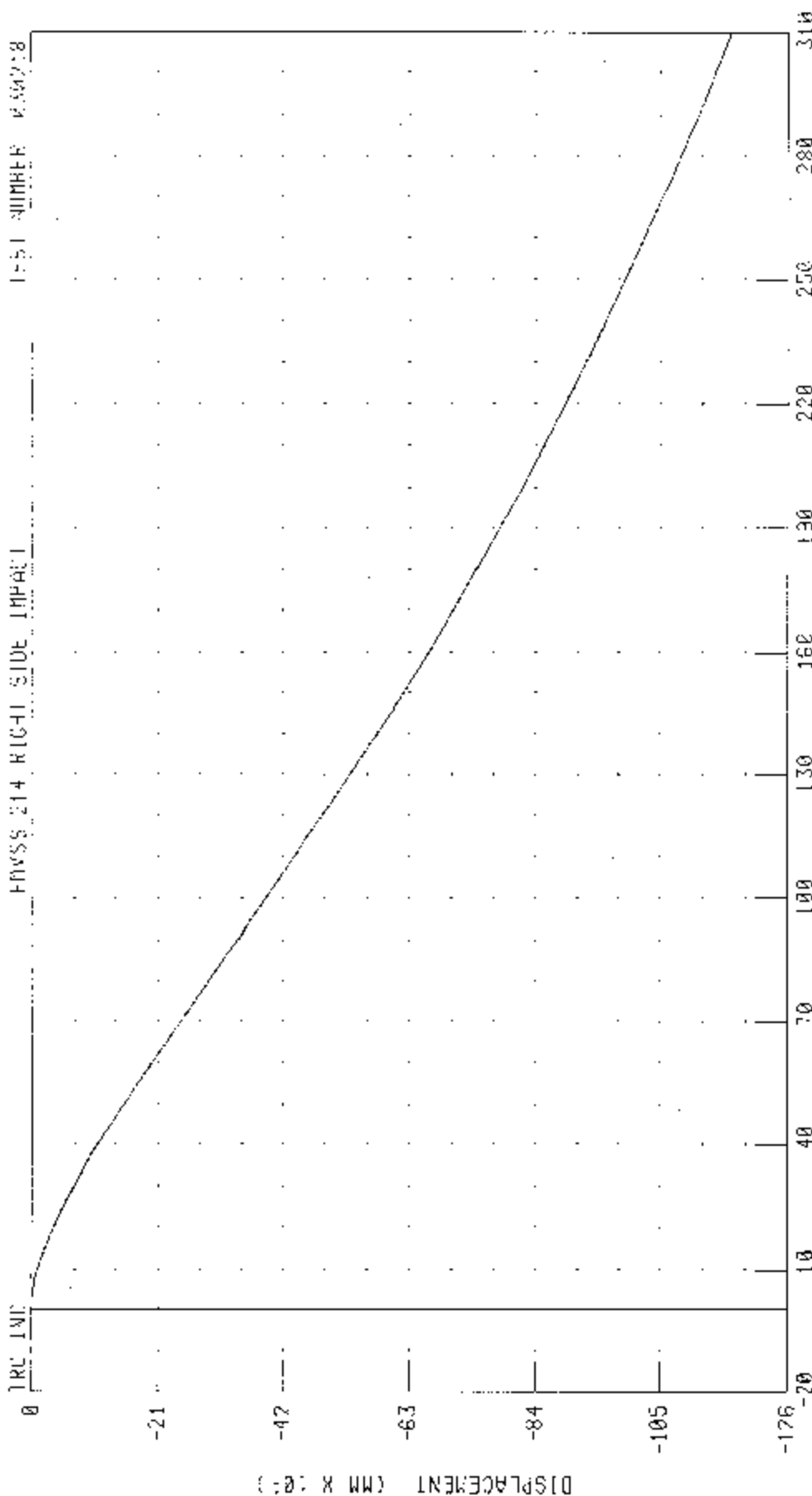
PFAR DATA 0 20 KPH/H 0 00 MS: -17 42 2000 0 90 00 VS

48/24 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO RIGHT SIDE OF 2003 SUBARU BALD

RIGHT SIDE SIII AT FRONT SECT V-AXIS DISPLACEMENT

FNVS5 214 RIGHT SIDE IMPACT

TEST NUMBER 030218



TIME (MS)

PEAK DATA: 0 00 11 0 0.00 MS, -1167.58 MP @ 310 00 MS

CHANNEL: RFSYD: FILTER CH CLASS 180

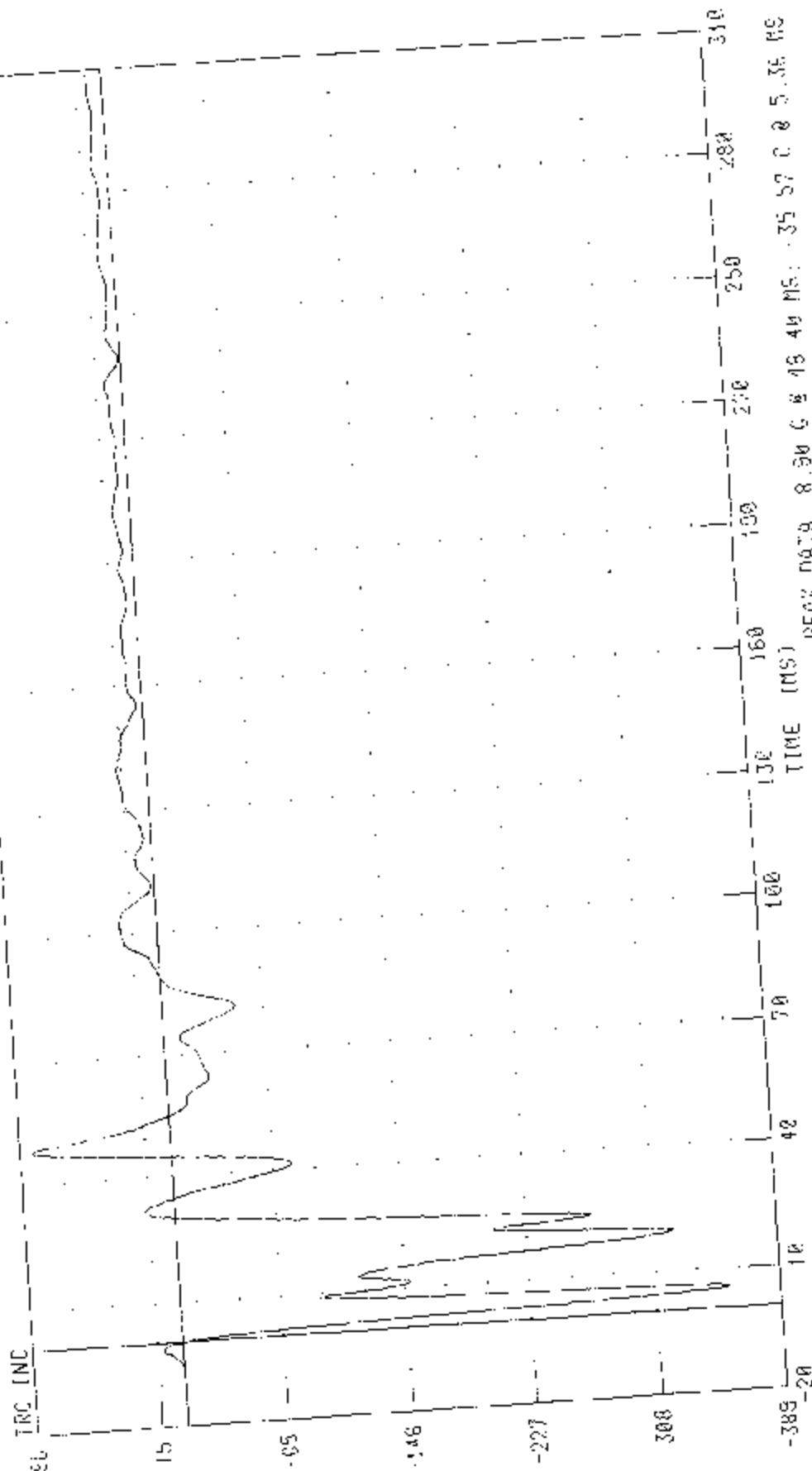
48/24 KPH 90 DEGREE SIDE IMPACT PROVING CORRELATION INTO RIGHT SIDE OF 2ND FLOOR DATA

RIGHT SIDE OF REAR SEAT VIBRO ACCCELERATION

TEST NUMBER 030218

RIGHT SIDE OF RIGHT SIDE IMPACT

030218



CHANNEL RRSYG1 FILTR CH CLASS 60

030218

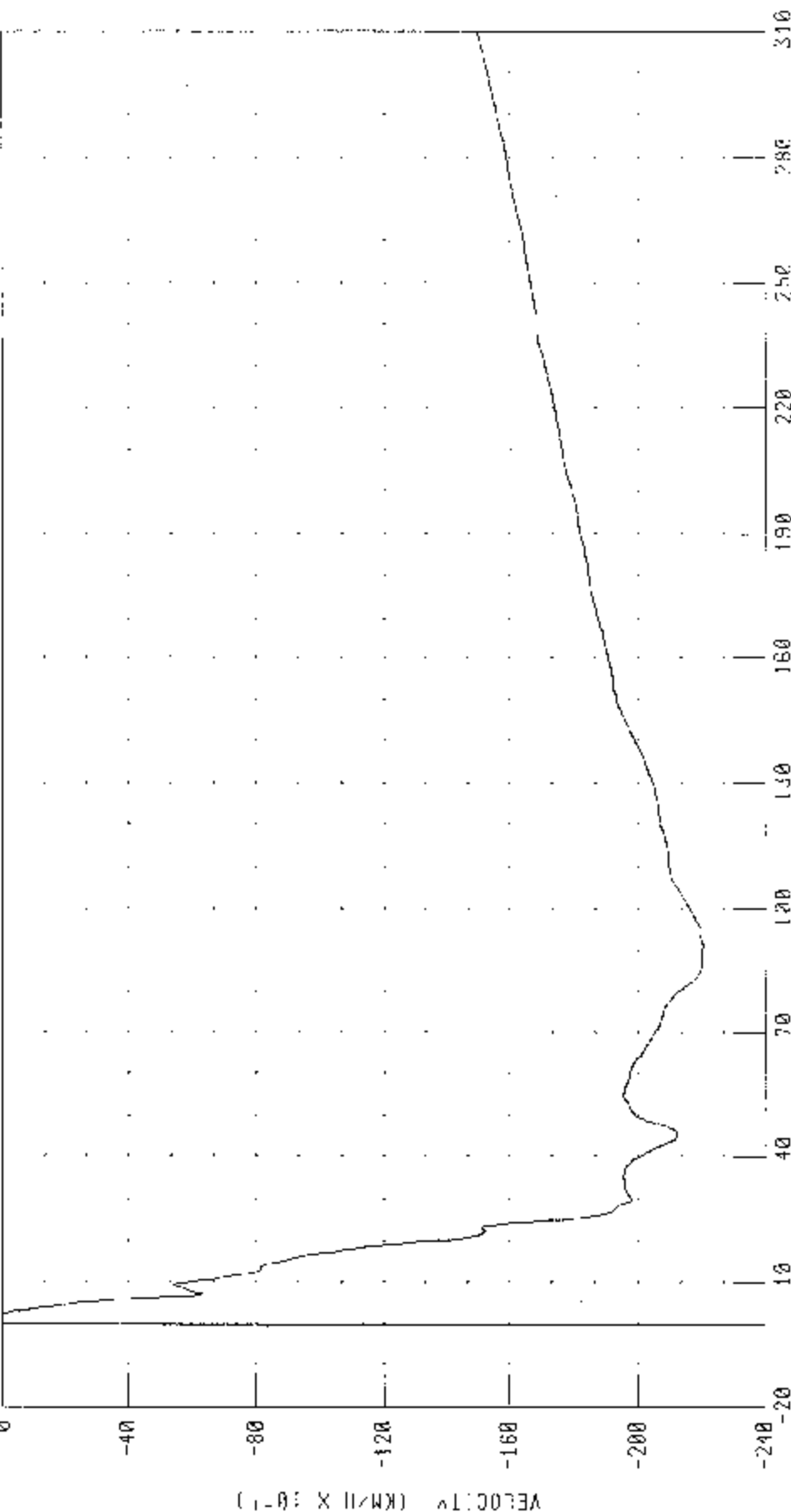
48/24 KPH 90 DEGREE SIDE IMPACT MOVING OFFENDER - HAWKING - INTO RIGHT SIDE OF 2003 SUBARU BAJAJ

RIGHT SIDE SILL AT REAR SEAT Y-AXIS VELOCITY

TEST NUMBER 030218

FNYS 214 RIGHT SIDE IMPACT

TRC INC.



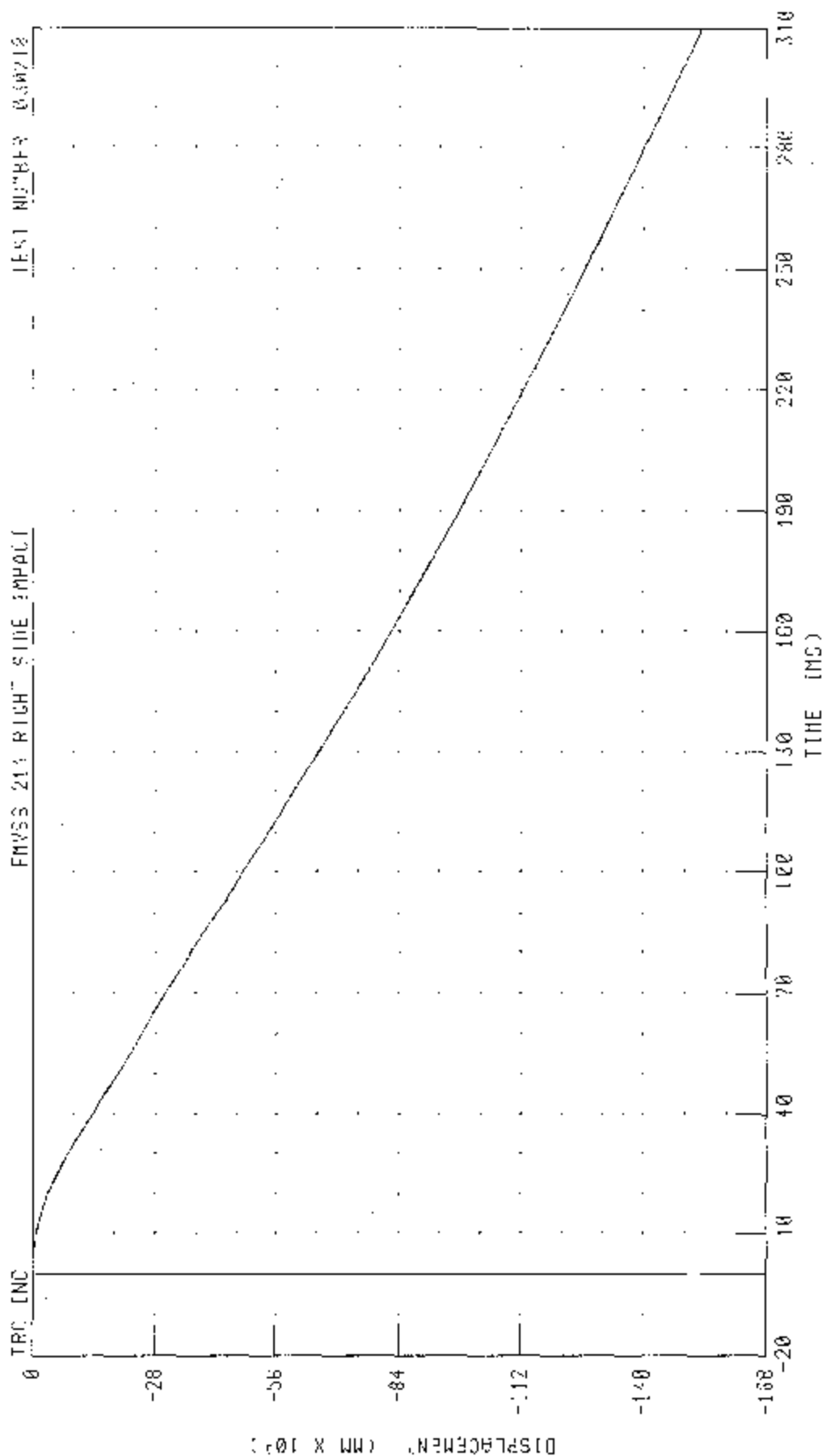
TIME (MS)

CHANNEL: RRSYV1 FILTER: CH CLASS 180

PEAK DATA: 0.03 KM/H @ 1.68 MS, -22.03 KPH @ 91.36 MS

40/24 MPH 90 DEGREE SIDE IMPACT (MOVING DEFORMER - BARRIER) INTO RIGHT SIDE OF 2003 SUBARU 201A

RIGHT SIDE SILENT REAR SEAT Y-AXIS DISPLACEMENT



FMVSS 214 RIGHT SIDE IMPACT

TEST NUMBER 030218

CHANNEL RRSYD1 FILTER: CH. CLASS 180

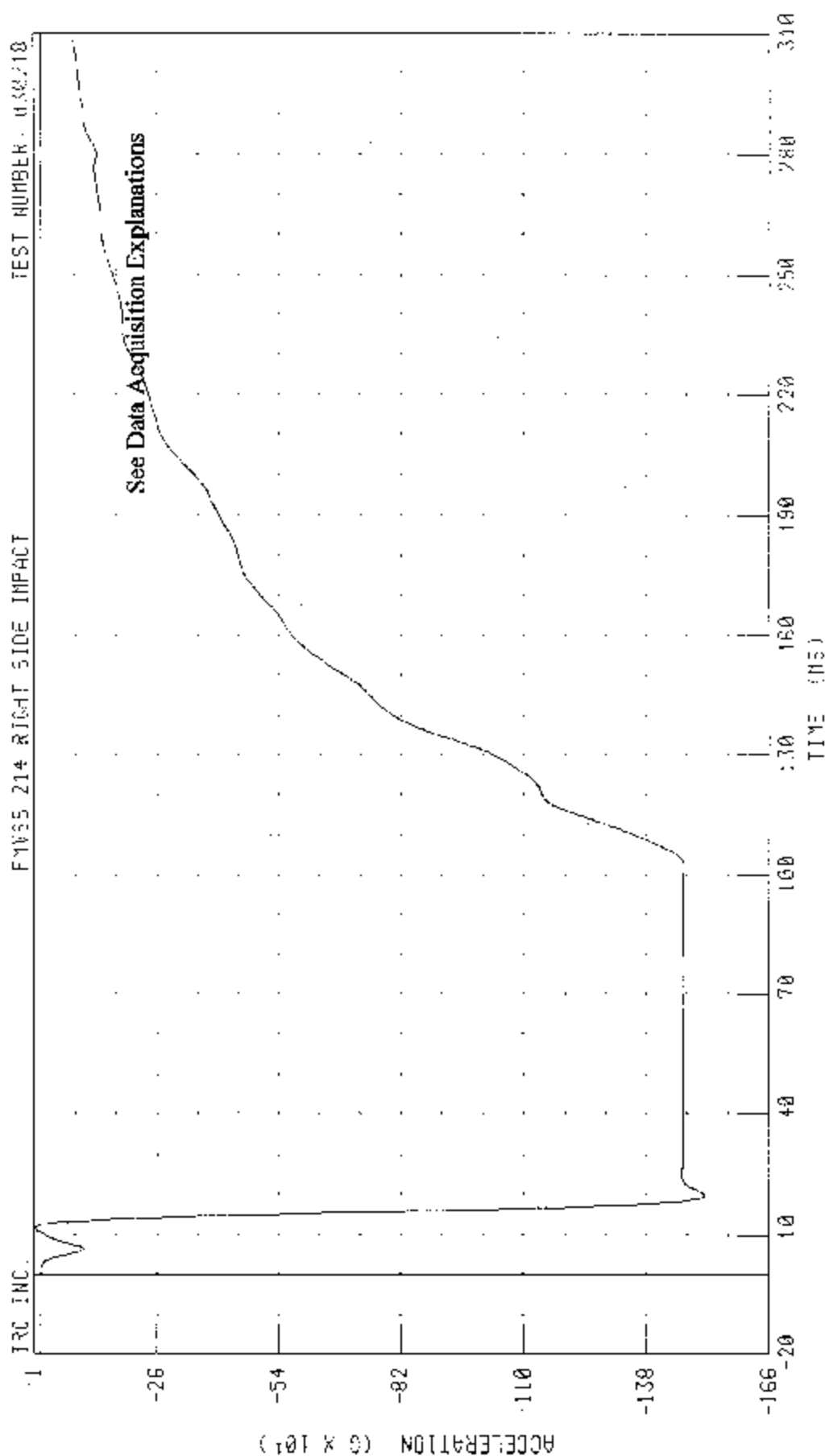
PEAK DATA: 0.21 MM @ 2.00 MS, -1530.74 MM @ 310.00 MS

48/74 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE CARRIER) INTO RIGHT SIDE OF 2005 SUBARU FA14

RIGHT "ROOF" DOOR ON CENTERLINE Y-AXIS ACCELERATION

FV355 214 RIGHT SIDE IMPACT

TEST NUMBER: 030218



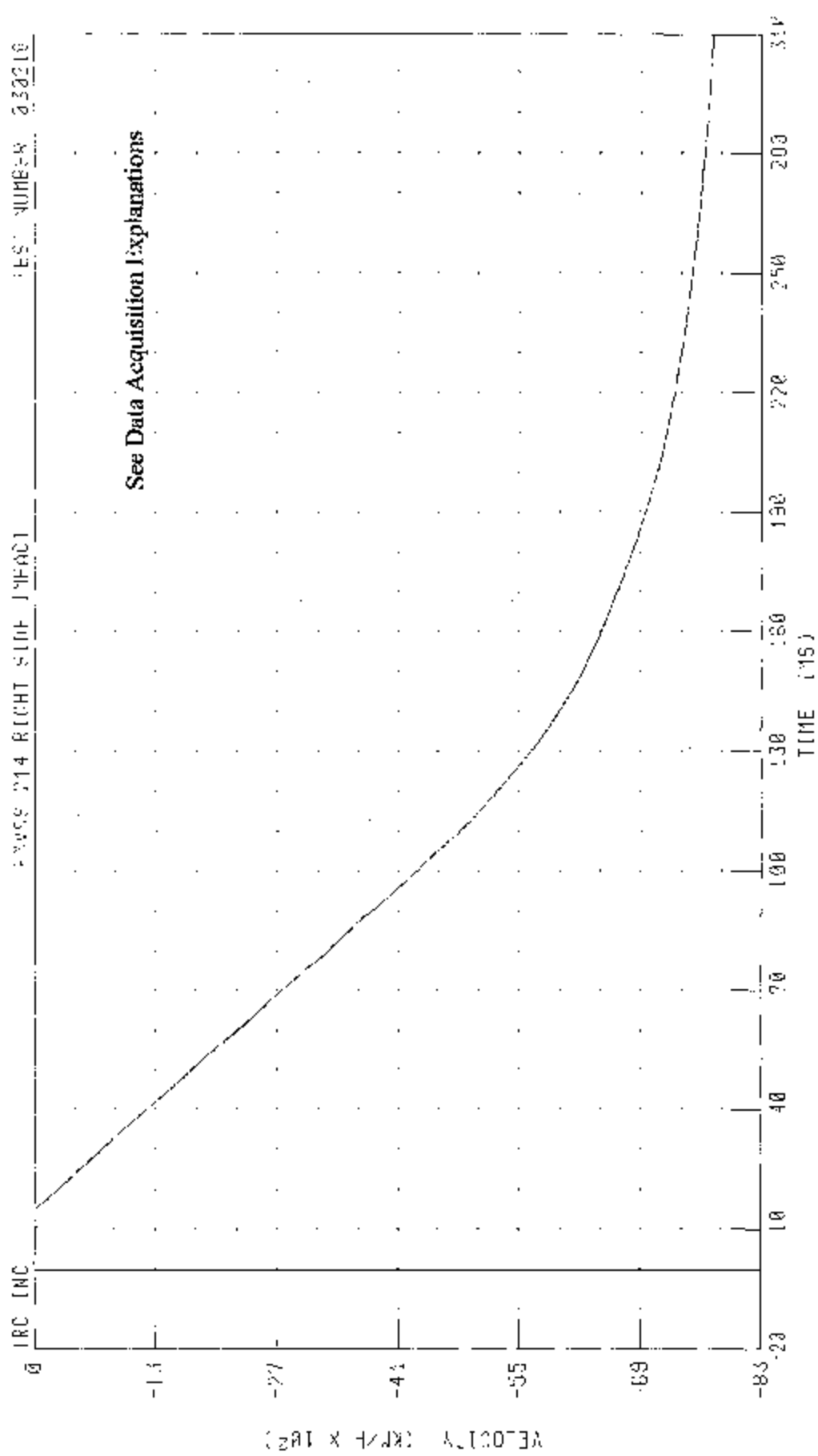
CHANNEL: RECYG1 FILTER: CH. CLASS E0

PEAK DATA: 15.99 G @ 17.88 MS, -1515.65 G @ 19.60 MS

48724 MPH 30 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO RIGHT SIDE OF 2003 SUBPAC 3000
 RIGHT FRONT DOOR ON CENTERLINE Y AXIS VELOCITY

Page 214 RIGHT SIDE IMPACT TEST NUMBER 030218

See Data Acquisition Explanations



CHANNEL: RFOY1 FILTER: CLASS 100 TIME (MS) PEAK DATA: 11 KPH 0 4 86 MS, 1803 87 MPH @ 310 00 MS

48/24 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO RIGHT SIDE OF 2003 SUBARU DAJ4

RIGHT FRONT DOOR ON CENTERLINE Y-AXIS DISPLACEMENT

TRC INC

TRV55 214 RIGHT SIDE IMPACT

TEST NUMBER: 030218

See Data Acquisition Explanations

DISPLACEMENT (MM X 10⁻³)

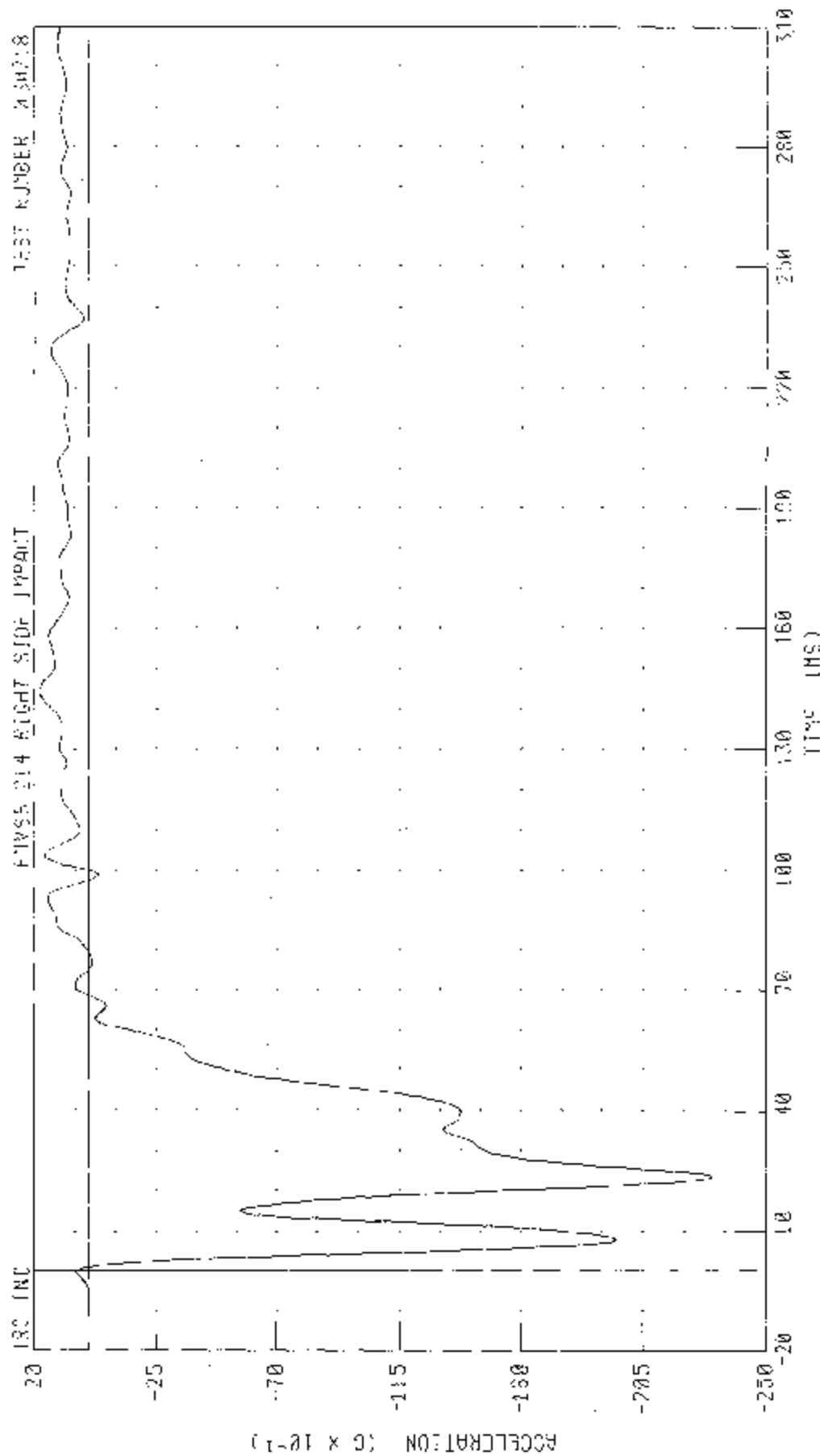
TIME (MS)

CHANNEL : RFDY01 FILTER : CH CLASS 180

PEAK DATA 0.01 MM @ 1.52 MS, -454230.06 MM @ 310.20 MS

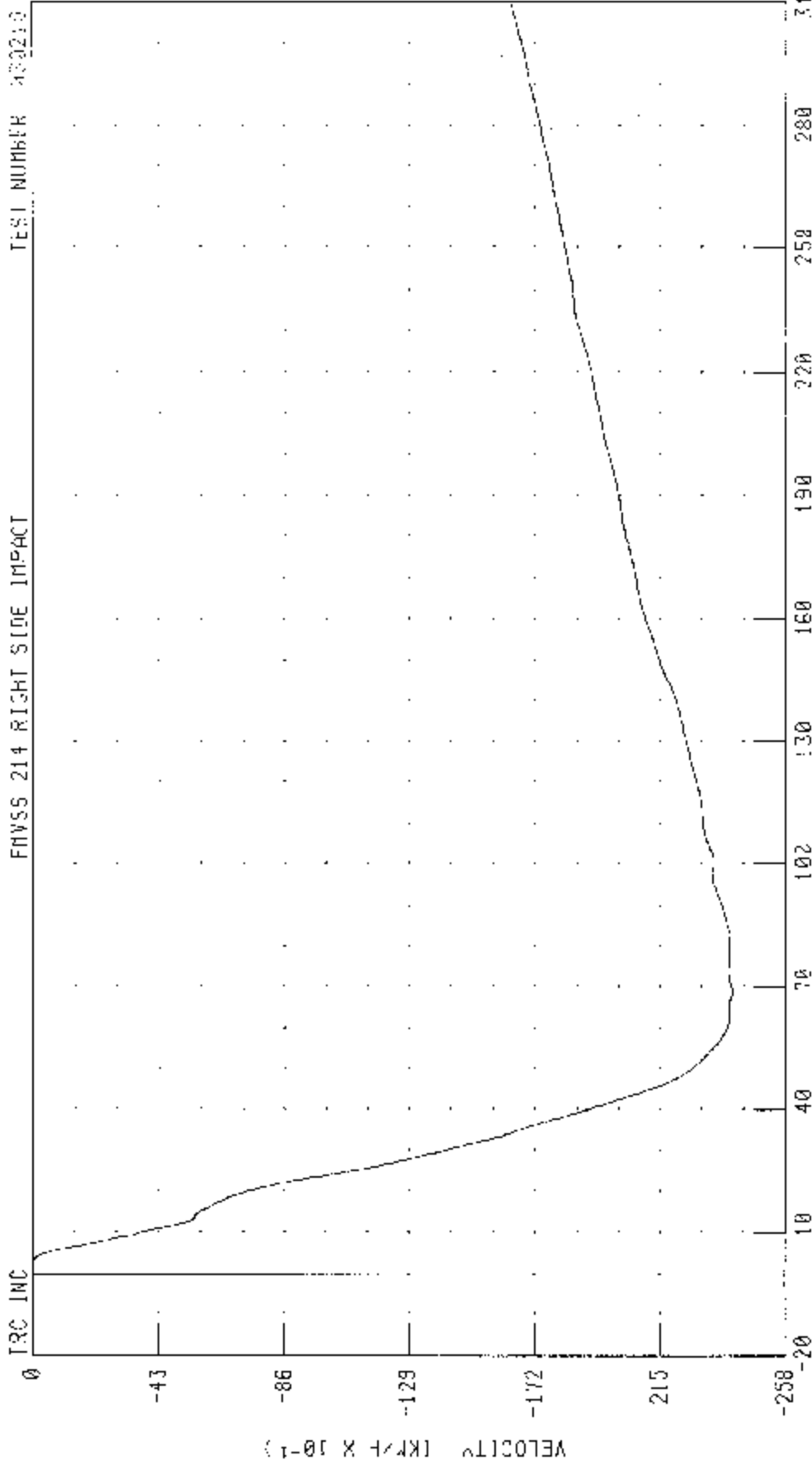
48/24 KPII 90 DEGREE SIDE IMPACT (MOVING UC-CORNER BARRIER) INTO HIGH FIDE OF 2003 SUBRU DATA

3-1 REFER COILPER CONCURRENT Y-AXIS ACCELERATION



CHANNEL: CRTYC: FILTER: CH: CLASS: 60 PEAK DATA: 1 82 G @ 144.80 MS, -23.03 G @ 23.00 MS

48/24 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO RIGHT SIDE OF 2003 SUBARU. RAIN
LEFT REAR OCCUPANT COMPARTMENT Y AXIS VELOCITY



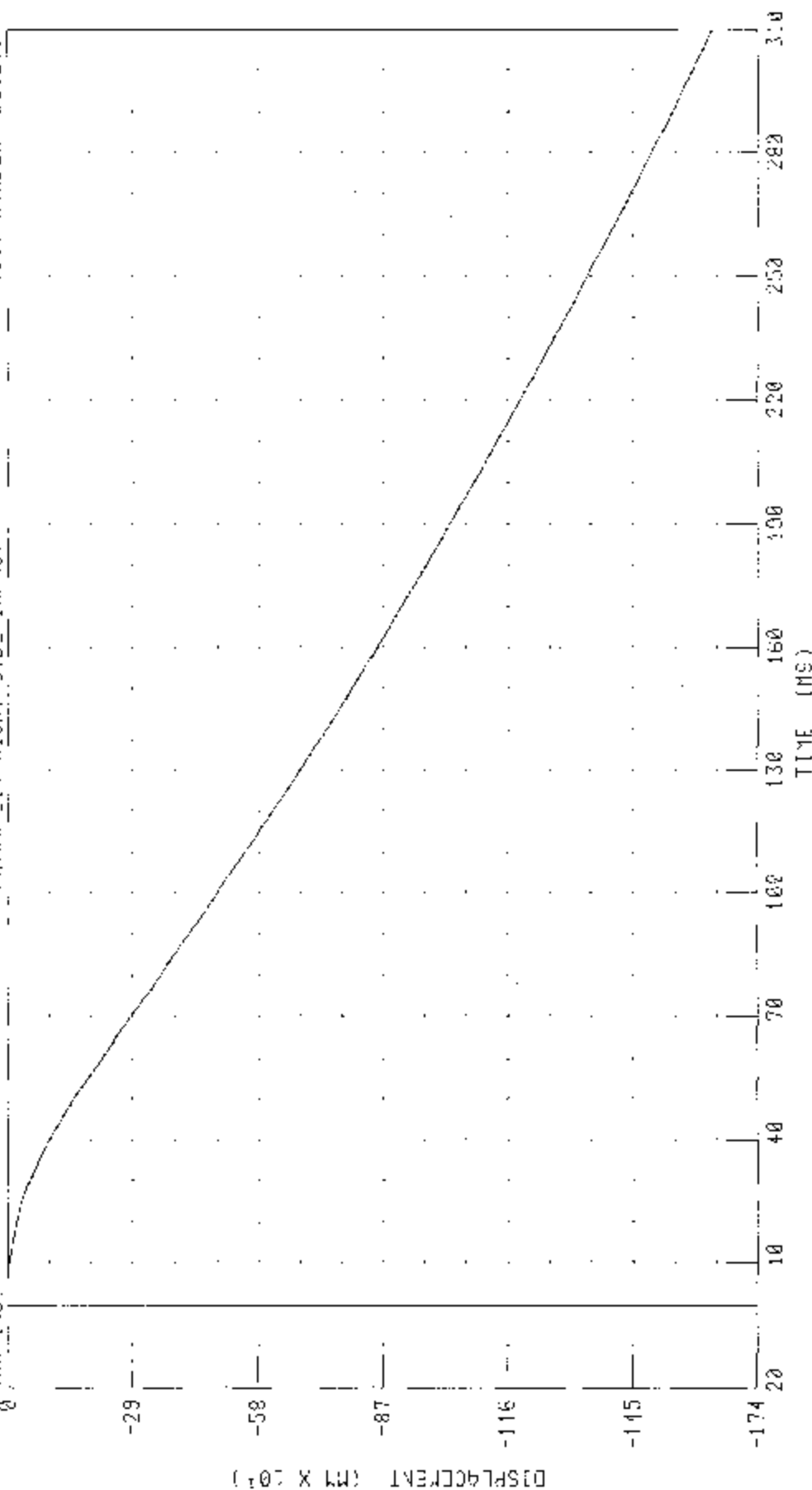
CHANNEL: 1RTV3 FILTER CH. CLASS 160

PEAK DATA: 0 00 CM/H 0 0 00 MS; -23 98 KM/H @ 68 72 MS

48'24 KPH 50 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO RIGHT SIDE OF 1003 SUBARU P40A

LEFT REAR OCCUPANT COMPARTMENT Y AXIS DISPACEMENT

0 TRC INC. PHASE 214 RIGHT SIDE IMPACT TEST NUMBER 030218



CHANNEL LRTYD1 FILTER CH. CLASS 180

PEAK DATA 0 00 RM @ 0 00 MS, 1032.32 MM @ 512.00 MS

48/24 MPH 50 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO RIGHT SIDE OF 2003 SUBARU DATA

RIGHT FRONT DOOR MIL-REAR Y-AXIS ACCELERATION

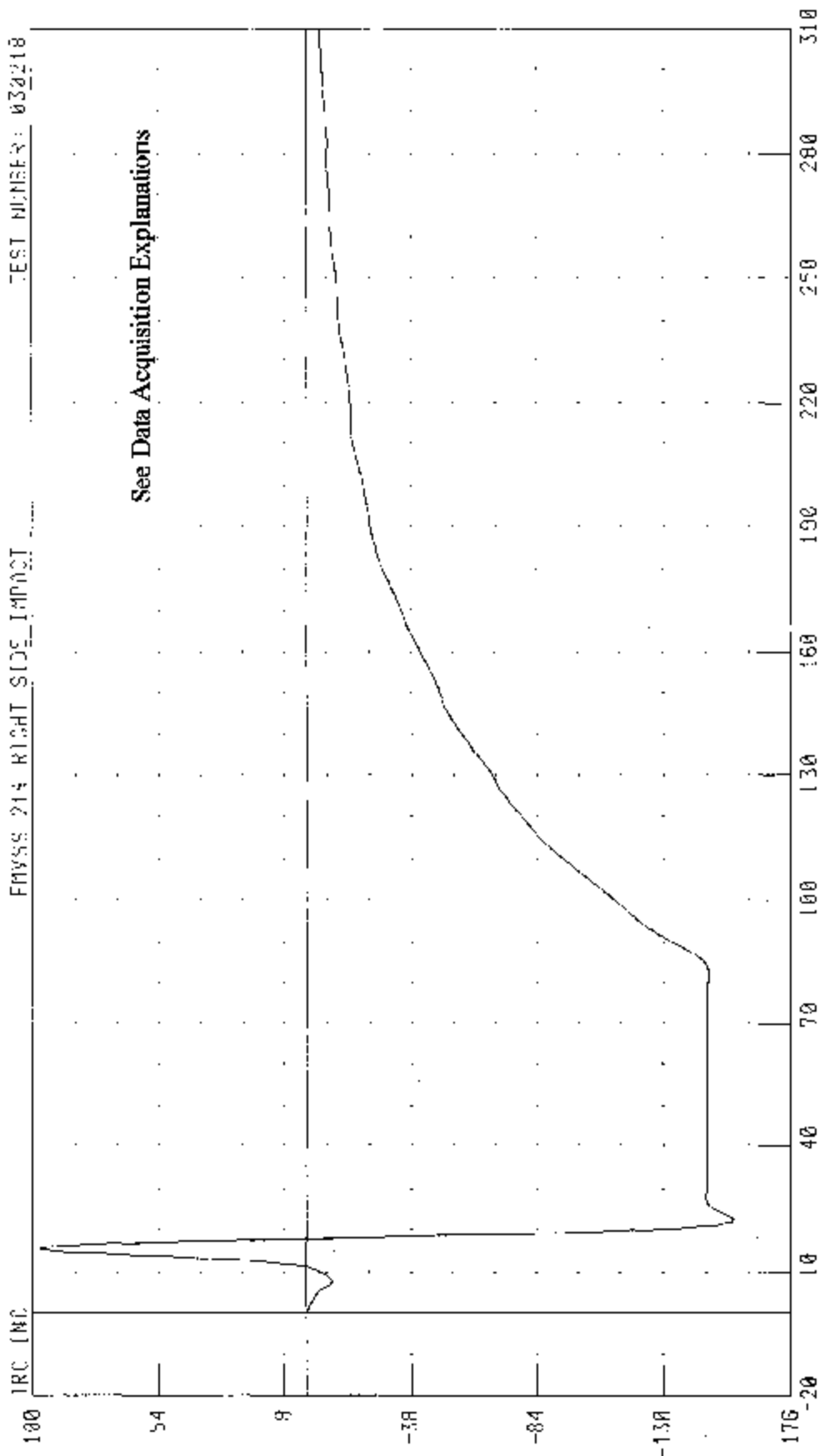
TEST NUMBER: 030218

FMVSS 214 RIGHT SIDE IMPACT

IRC (NC)

See Data Acquisition Explanations

ACCELERATION (G X 10¹)

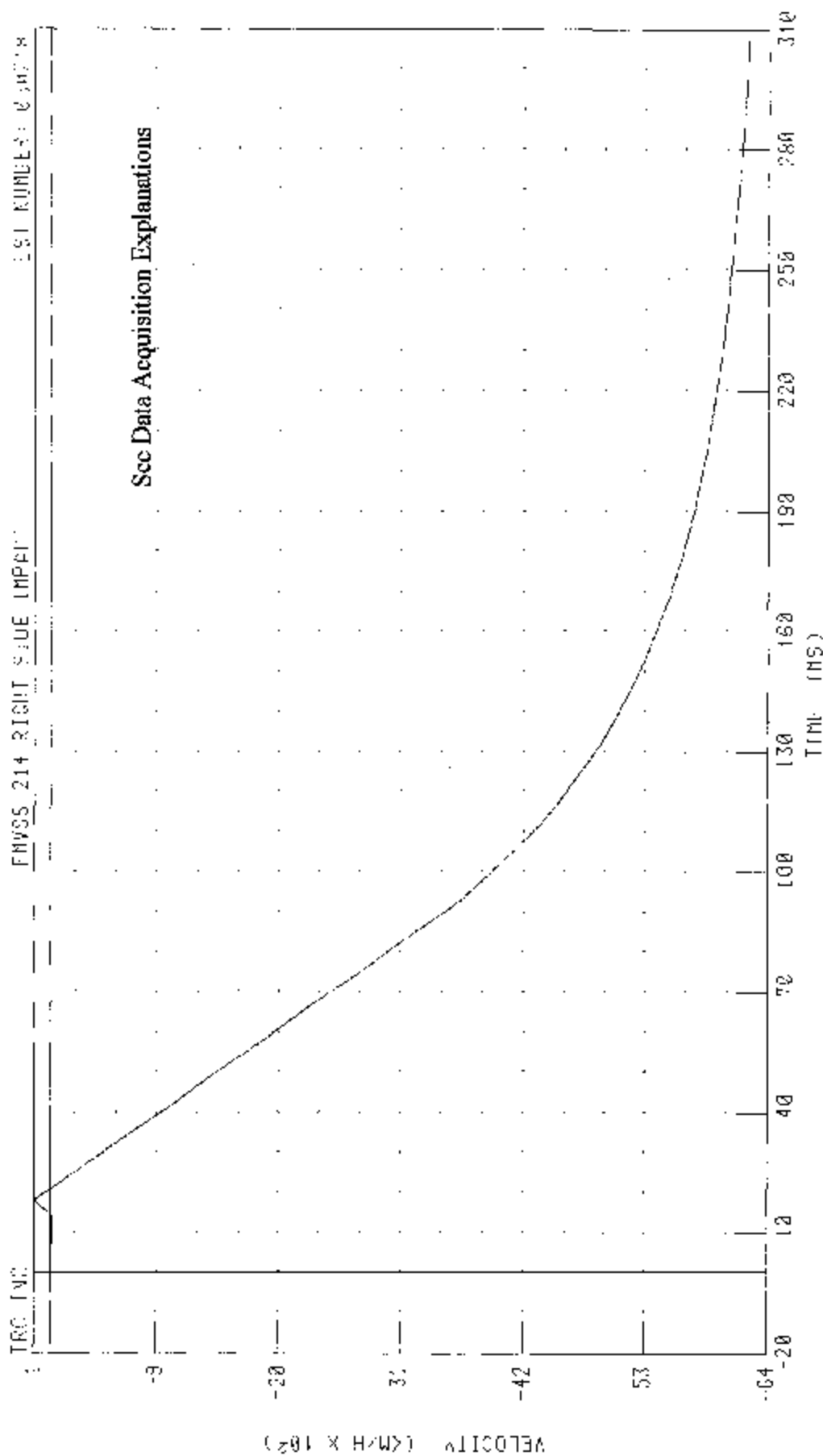


TIME (MS)

PEAK DATA: 973 00 G 15 84 MS; -1550 28 3 6 77 40 MS

CHANNEL: RFMY01 FILTER: CH. CLASS 60

RIGHT FRONT 40 DIAPY-AXIS VELOCITY

[illegible]

CHANNEL: RINNY1 FILTER: CH. CLASS 130

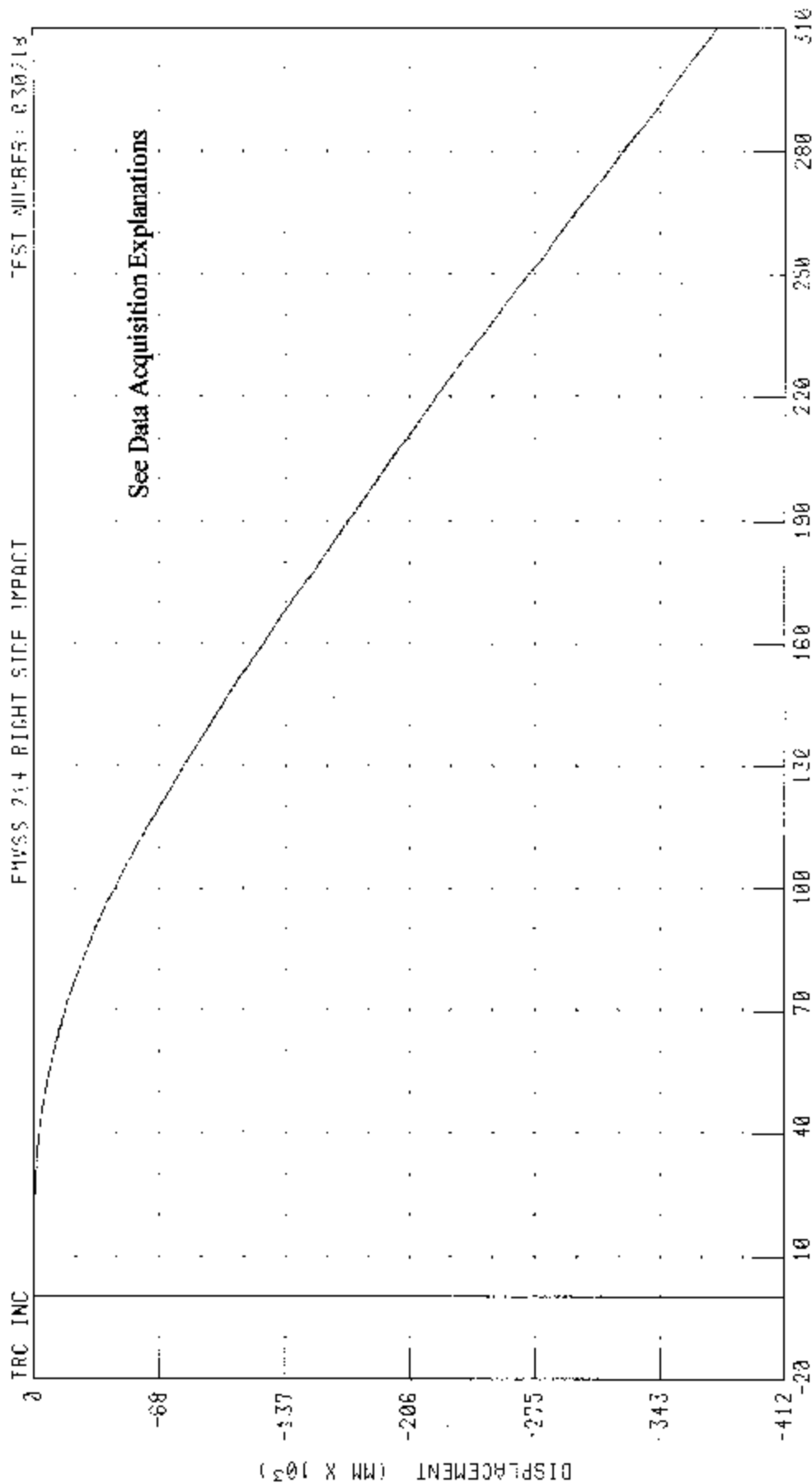
IPAK DATA: 137 27 K/MH @ 13 04 MS, 5263 88 K/MH @ 310 30 MS

48/24 KPH 90 DEGREE SIDE IMPACT MOVING DEFORMABLE BARRIER INTO RIGHT SIDE OF 230S HUBARD BAY

RIGHT FRONT DOOR MID REAR Y AXIS DISPLACEMENT

FWSS 214 RIGHT SIDE IMPACT

TEST NUMBER: R30218



CHANNEL: RFDY01 FILTER: CH CLASS: 182

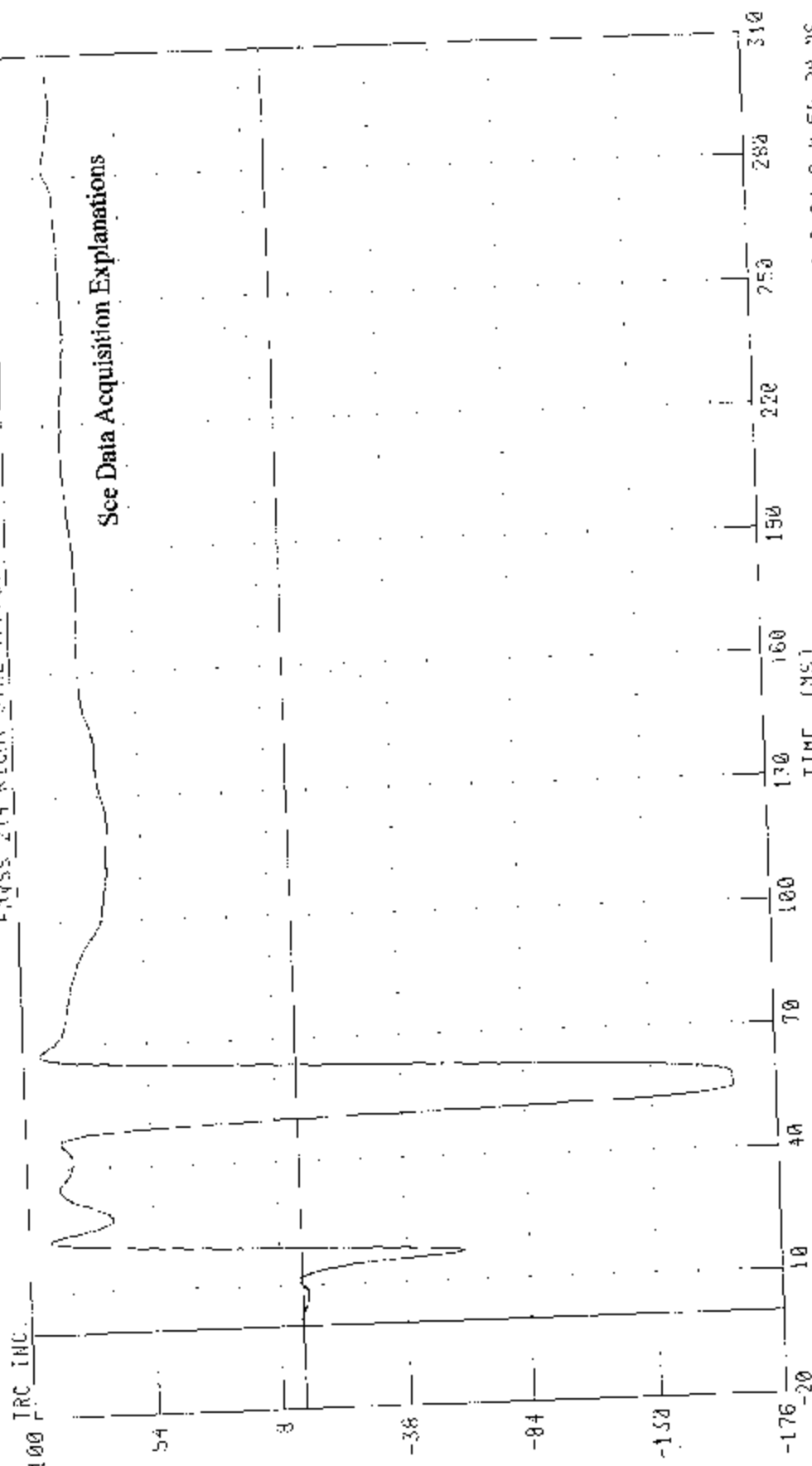
PEAK DATA: 97.51 MM @ 20.96 MS; -375256 63.14 @ 310.00 MS

48/24 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO RIGHT SIDE OF 20M SUBRED RAIL

RIGHT FRONT DOOR UPPER CENTRAL INF Y AXIS ACCELERATION

TEST NUMBER: 030218

EXCESS 214 RIGHT SIDE IMPACT



PEAK UNIT 939.32 G @ 67.00 MS, 1306.04 G @ 55.28 MS

CHANNEL: RFUYH1 FILTER: CH. CLASS: 60

ACCELERATION (G X 10^3)

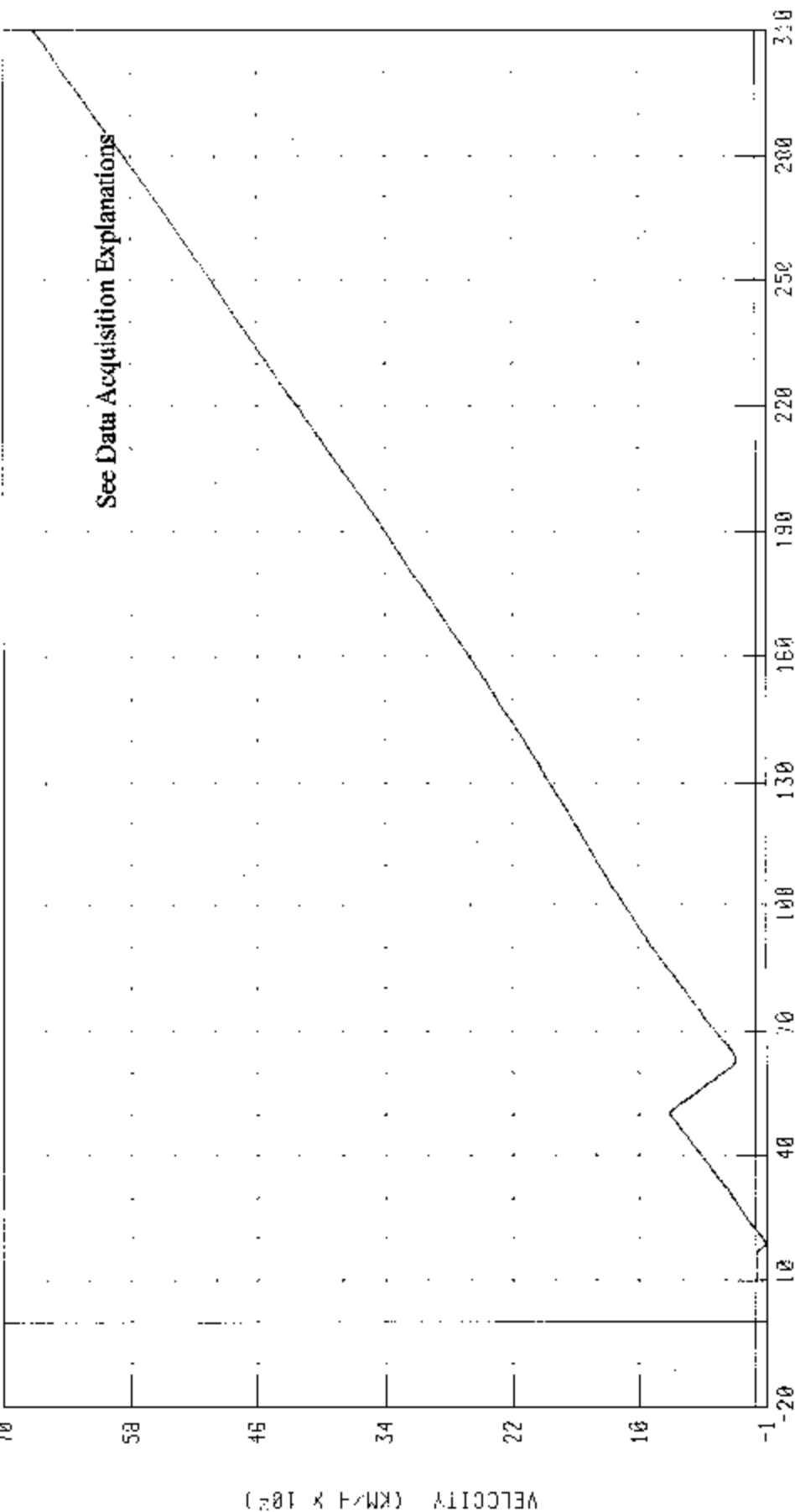
48/24 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO RIGHT SIDE OF 2003 SUBARU EAJA

RIGHT FRONT DOOR UPPER CENTRAL HF X-AXIS VELOCITY

INVEST 214 RIGHT SIDE IMPACT

TEST NUMBER 030218

TRC INC



TIME (MS)

PEAK DATA: 6792 44 KM/H @ 310 00 MS, -101 53 KM/H @ 19 56 MS

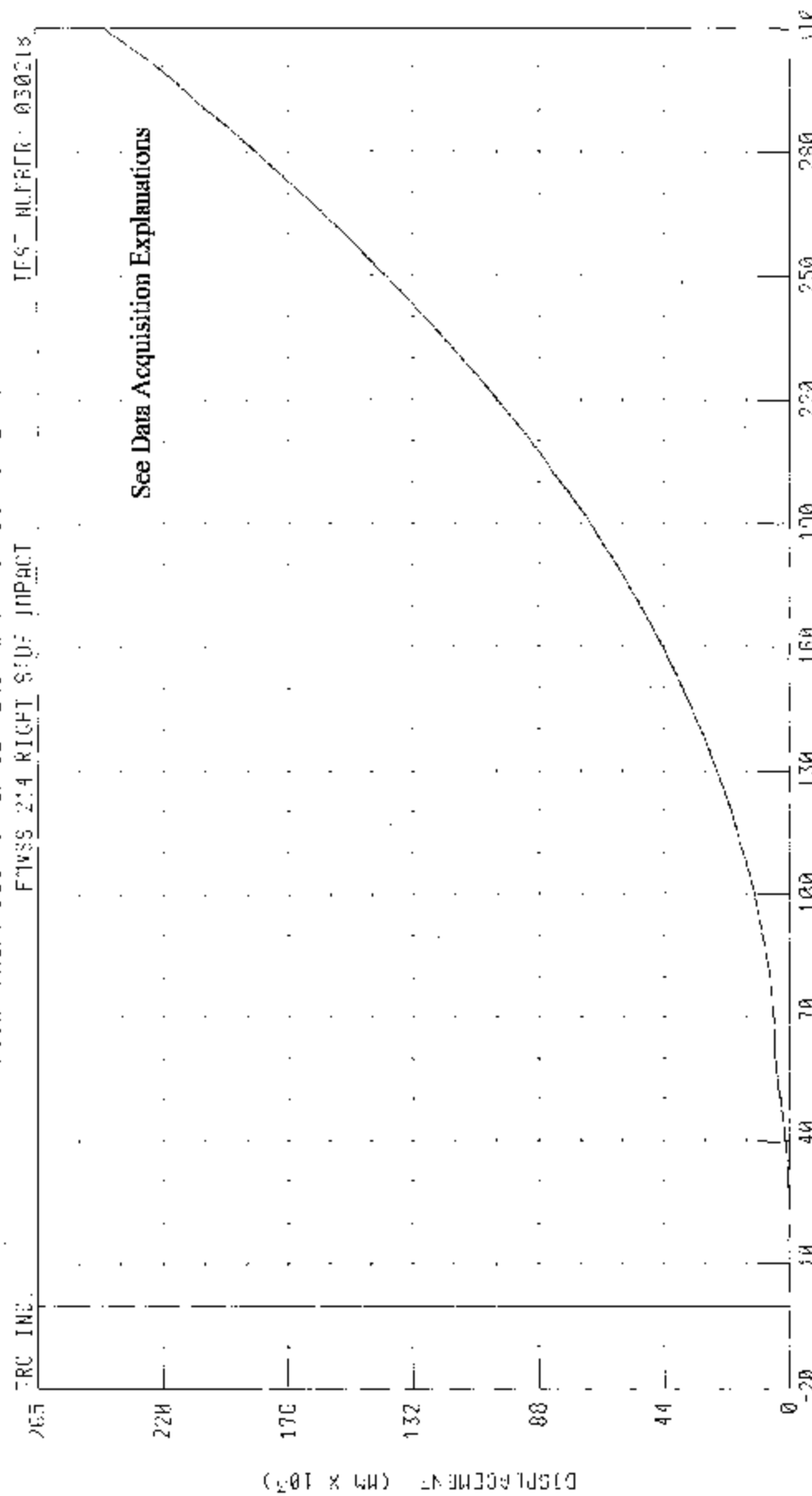
CHANNEL RFUYV1 FILTER: CH. CLASS 180

48/24 KPS 00 DEGREE SIDE IMPACT (MOVING DEFENDANT BARRELS INTO RIGHT SIDE OF ZONE SUBORD. BAJA

RIGHT FRONT DOOR UPPER CENTERLINE V-AXIS DISPLACEMENT

FWSS 214 RIGHT SIDE IMPACT

IFG7 MLFRTF 030218



TIME (MS)

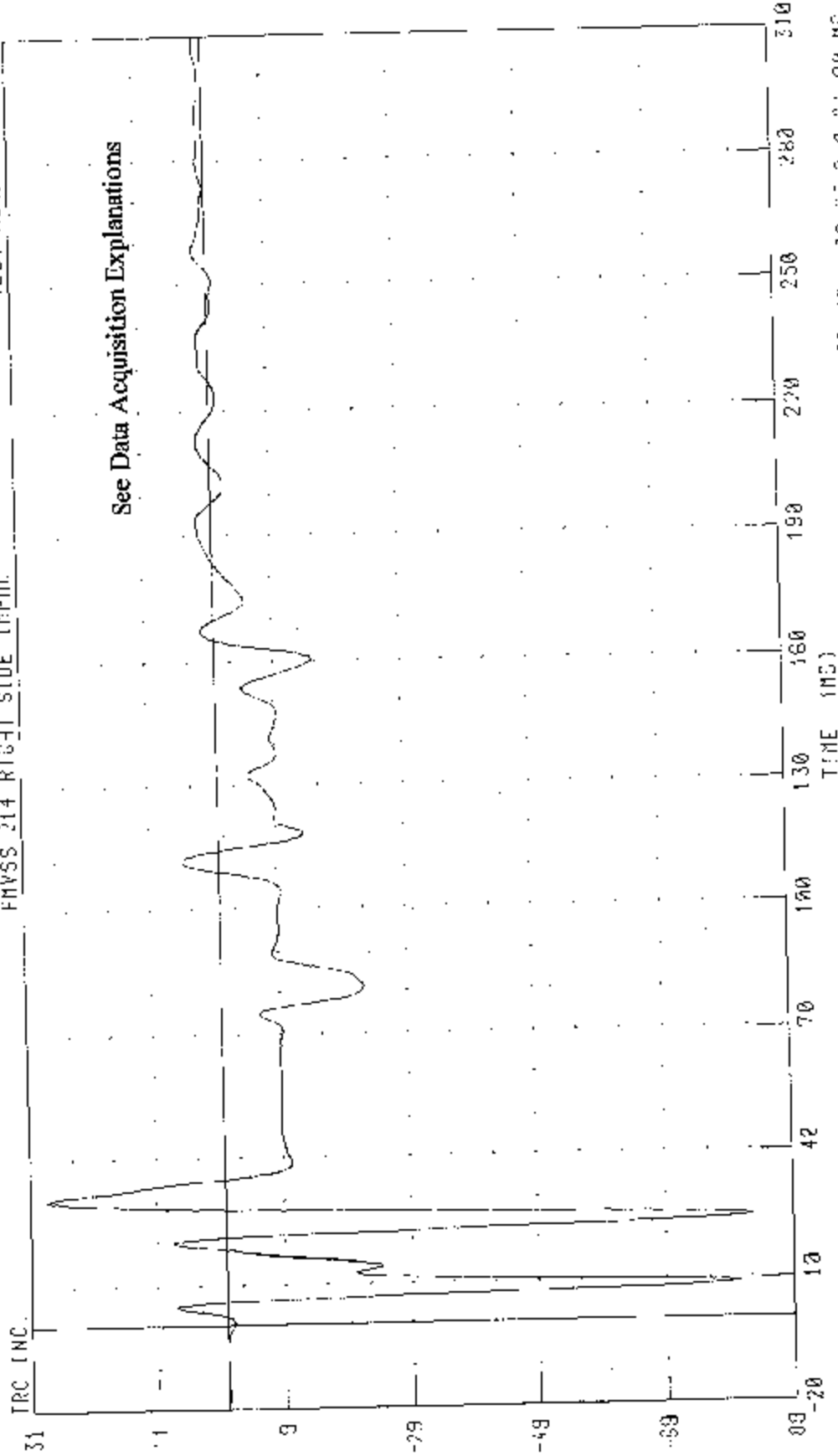
CHANNEL RTUVD: FILTER: CH. CLASSE 100 PEAK DATA: 241310.70 MM @ 310.00 MS, -103.28 MM @ 27.00 MS

48/24 KPH 30 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO RIGHT SIDE OF 2003 SUBARU BAJA

RIGHT REAR BUCKLE REAR Y-AXIS ACCELERATION

TEST NUMBER 030218

FMVSS 214 RIGHT SIDE IMPACT



See Data Acquisition Explanations

PEAK DATA 78 20 G @ 30.72 MS. -82 G @ 0 24 80 MS

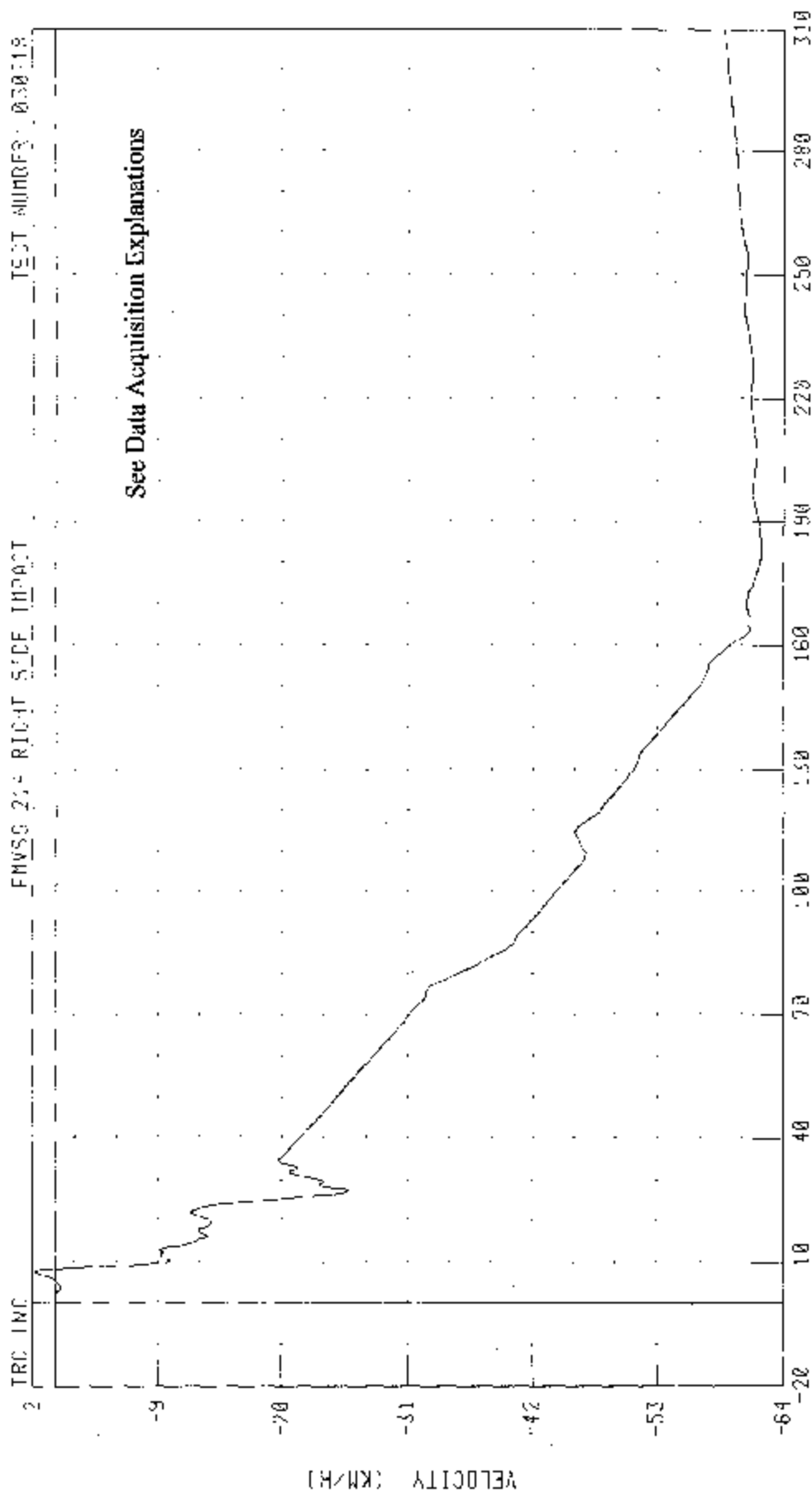
CHANNEL: RRYV01 FILTER: CH CLASS 00

48/24 KP-30 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO RIGHT SIDE OF 2003 SUBARU DATA

RIGHT REAR CORNER MID-REAR Y-AXIS VELOCITY

FMVSS 214 RIGHT SIDE IMPACT

TEST NUMBER: 030218



CHANNEL: RSNV1 FILTER: CH CROSS: 100

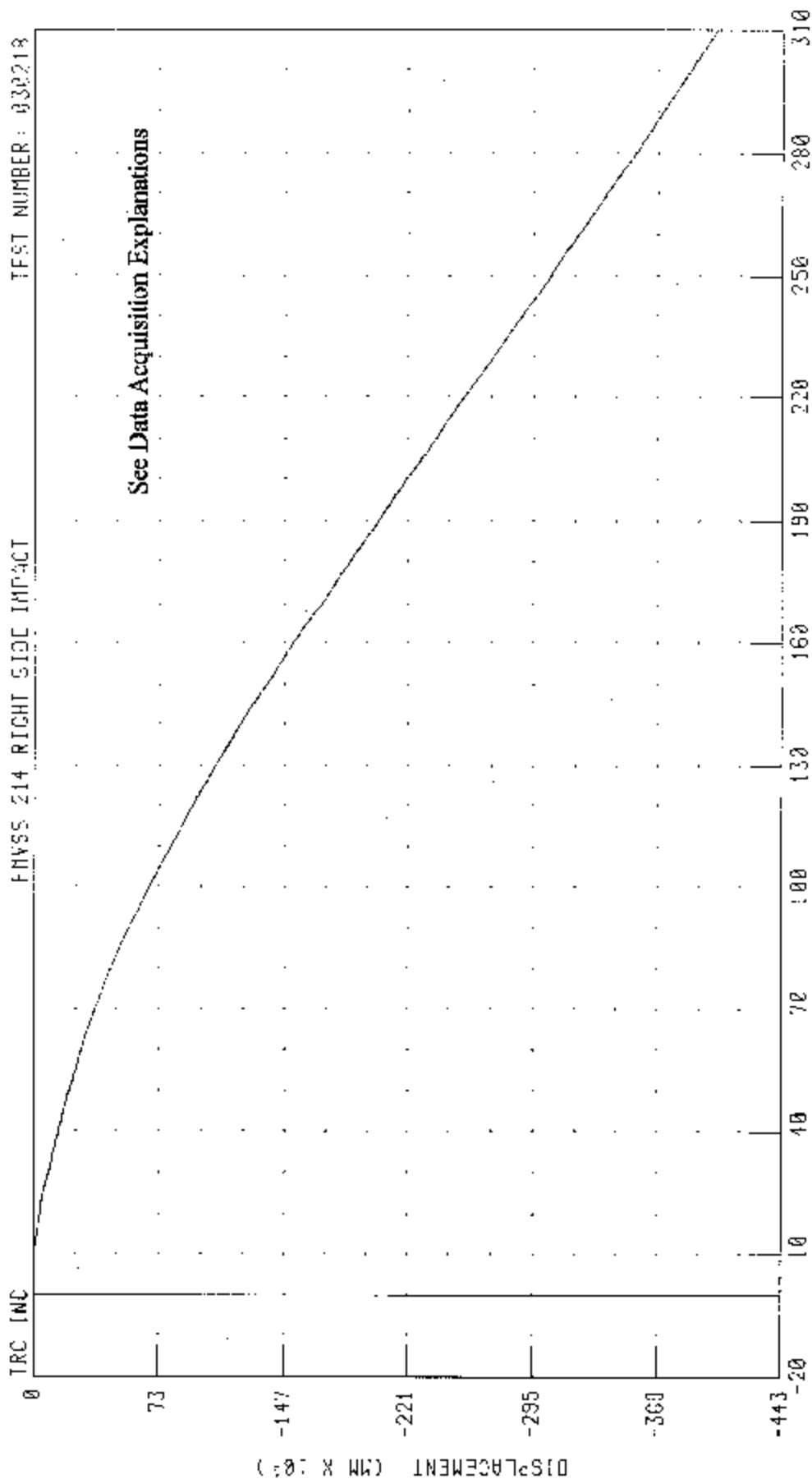
PEAK DATA: 1.05 KM/H @ 76 MS, -62.08 KM/H @ 134.32 MS

48/24 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO RIGHT SIDE OF 2005 SUBARU CROSSTRECK

RIGHT REAR DOOR FID-REAR Y-FWD DISPLACEMENT

FNVS 214 RIGHT SIDE IMPACT

TEST NUMBER: 030218



TIME (MS)

CHANNEL RRYD01 FILTER: CH CLASS 130

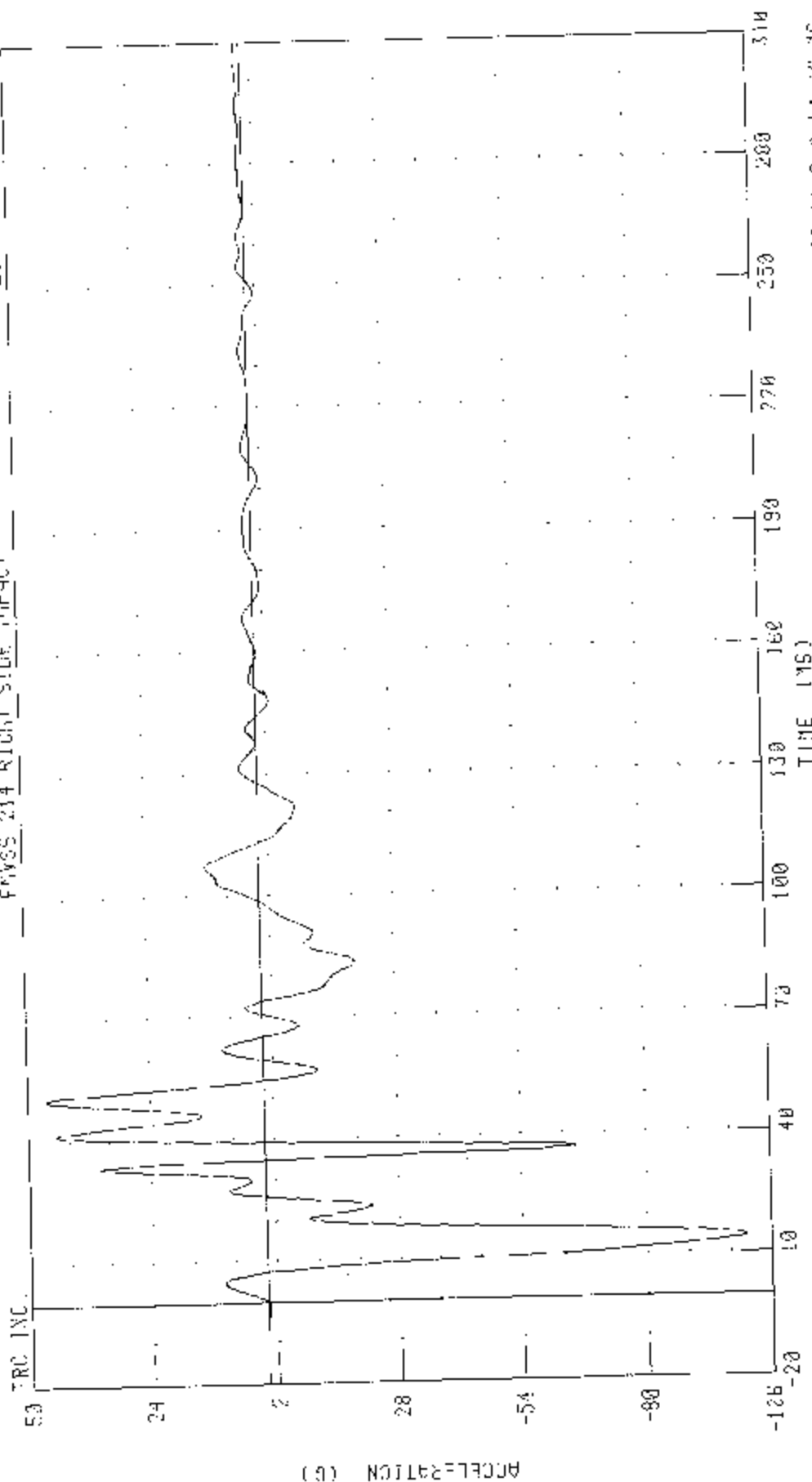
PEAK DATA 0.53 MM @ 8.40 MS; -405.5 R7 KM @ 510.00 MS

48/24 MPH 90 DEGREE SIDE IMPACT INVOLVING DEFERRABLE BARRETT INTO RIGHT SIDE OF 2800 CUMMINS B&B

RIGHT SIDE DASH UPPER CENTERLINE X-AXIS ACCELERATION

TEST NUMBER: 030218

FRYSS 214 RIGHT SIDE IMPACT



PEAK DATA 45.97 G @ 53.32 MS, 100.61 G @ 14.18 MS

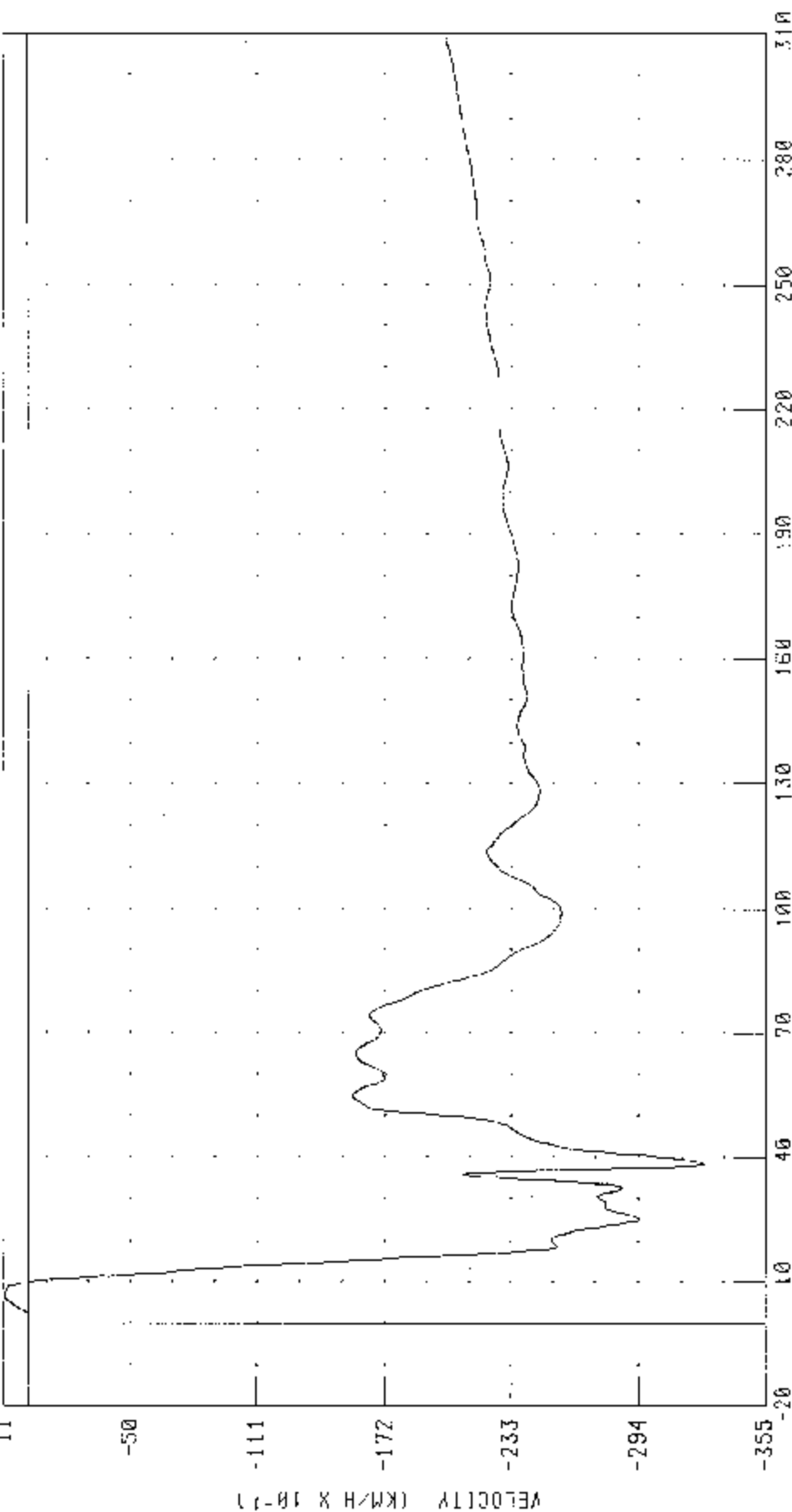
CHANNEL: RRYG1 FILTER: CH CLASS 60

48/24 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORABLE BARRIER) INTO RIGHT SIDE OF 2003 SUBARU 2A.4

RIGHT REAR DOOR UPPER CENTERLINE Y-AXIS VELOCITY

TRC INC 11 TEST NUMBER 030218

SVSS 214 RIGHT SIDE IMPACT



PEAK DATA: 1.07 KPH @ 5.72 MS, -32.54 KPH @ 38.40 MS

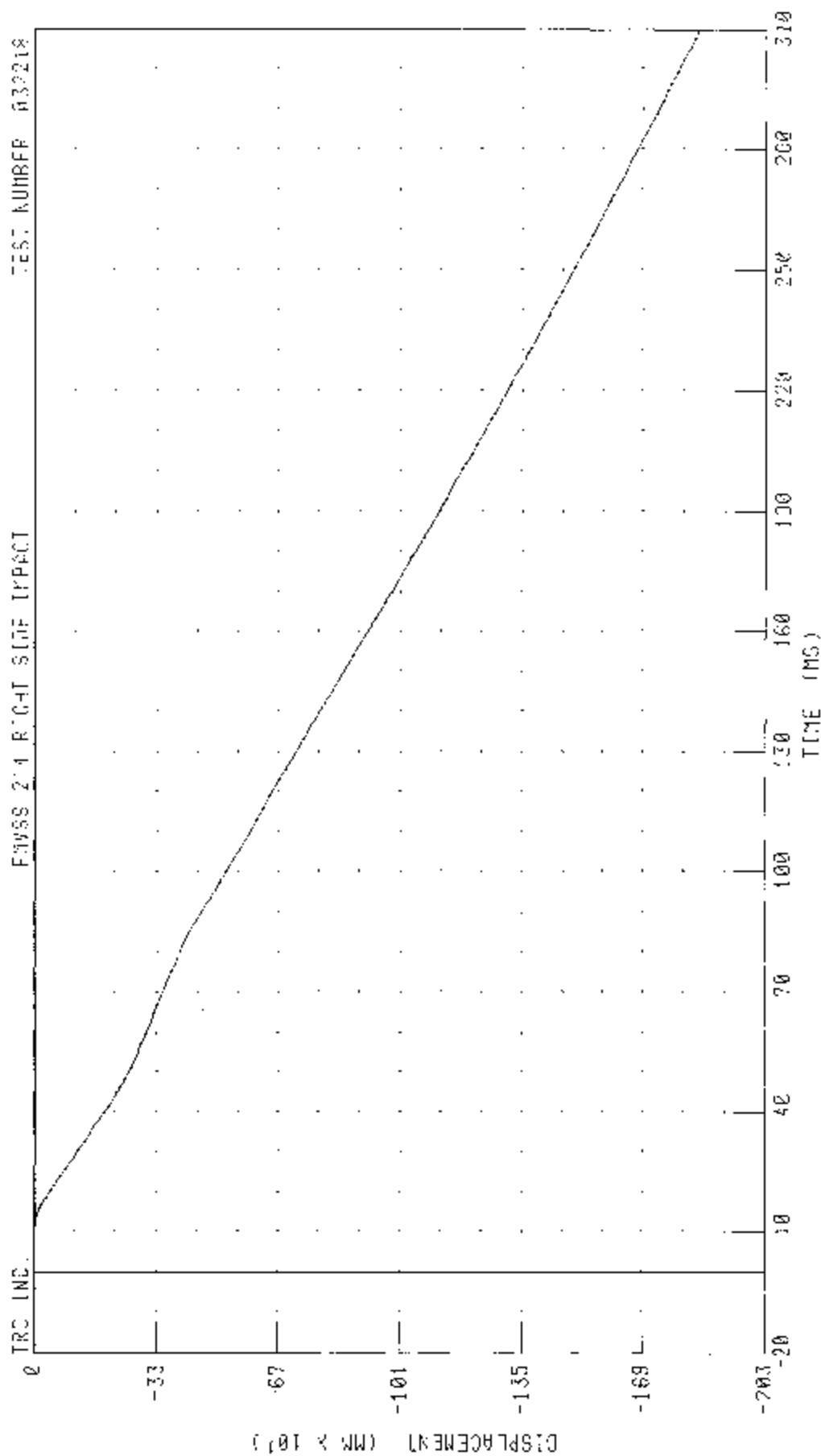
CHANNEL: BRUYV1 FILTER: CH CLASS: 100

48/24 4FH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE OBJECT) INTO RIGHT SIDE OF 2003 SUBARU ECLIPSE

RIGHT REAR DOOR UPPER CENTERLINE Y AXIS DISPLACEMENT

FWSS 214 RIGHT SIDE IMPACT

TEST NUMBER 030218



CHANNEL RR001 FILTER CH. CLASS 100

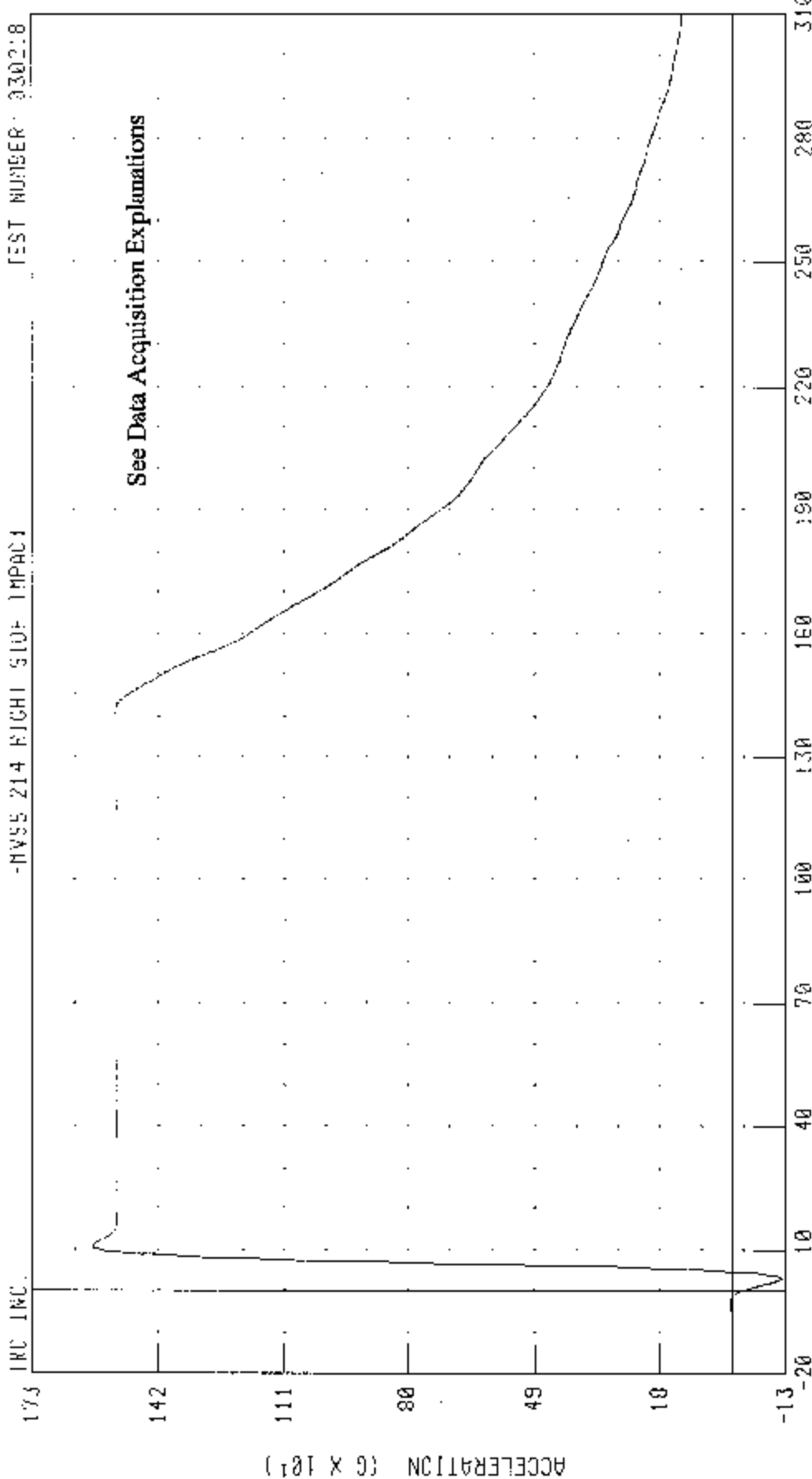
PEAK DATA 1.43 MS @ 9.84 MS, -1057.04 MM @ 320 MS

48/24 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO RIGHT SIDE OF 2003 SUBARU BAJA

RIGHT LOWER A-POST Y-AXIS ACCELERATION

-HV55 214 RIGHT SIDE IMPACT

TEST NUMBER: 030218



CHANNEL: RLAY01 FILTER: CH CLASS 6A
PEAK DATA: 1579.50 G @ 10.88 MS, -121.53 G @ 3.04 MS

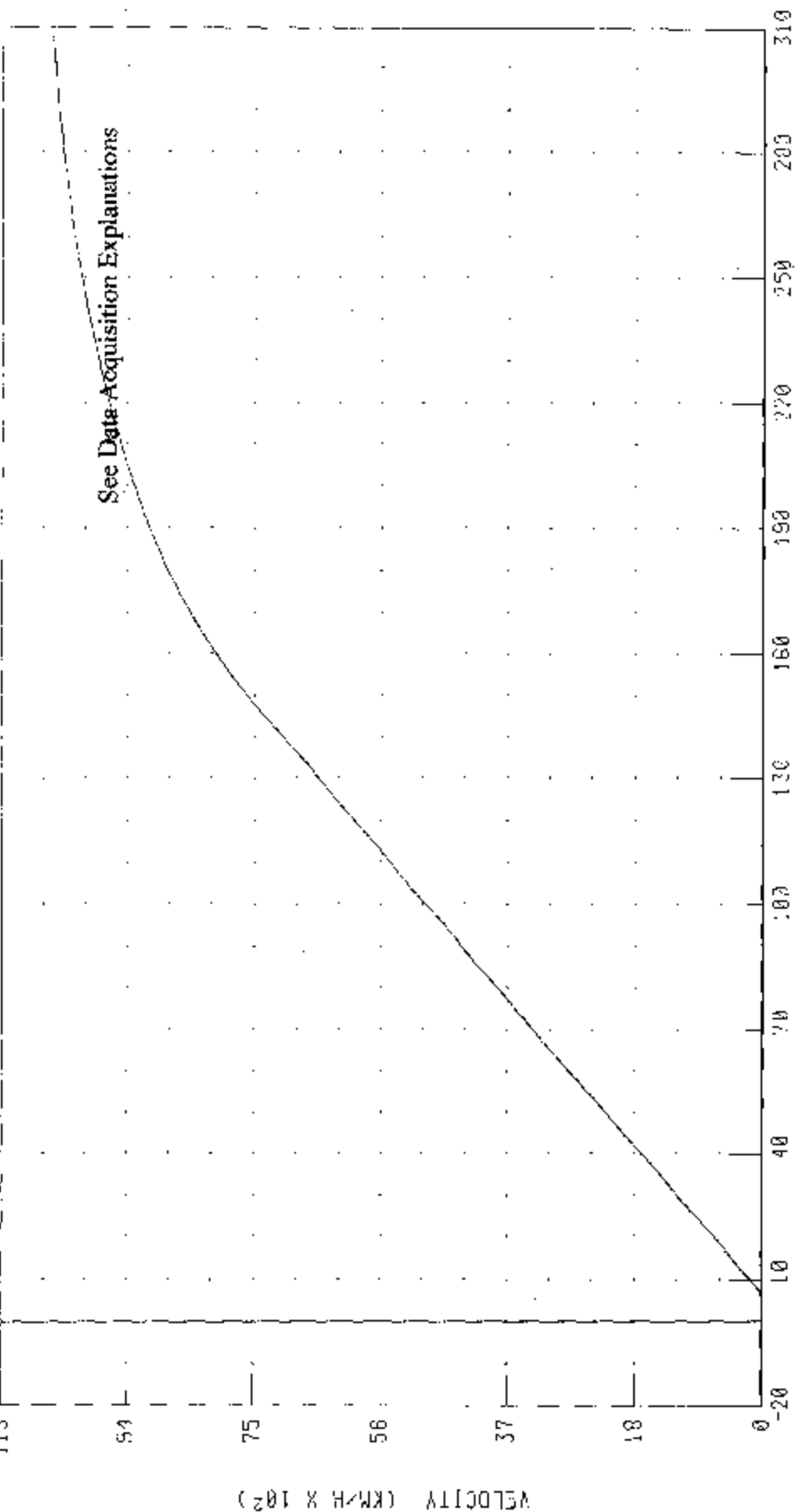
48/24 KPH 90 DEGREE SIDE IMPACT MOVING DEFORMABLE BARRIER INTO RIGHT SIDE OF 20PS SUBARU WAGON

RIGHT OVER A FLAT X-AXIS VELOCITY

TRC INC.

FMVSS 214 RIGHT SIDE IMPACT

TEST NUMBER: 030218



TIME (MS)

PEAK DATA: 10611.93 CM/4 @ 310.00 MS. 18.56 KPH @ 0.16 MS

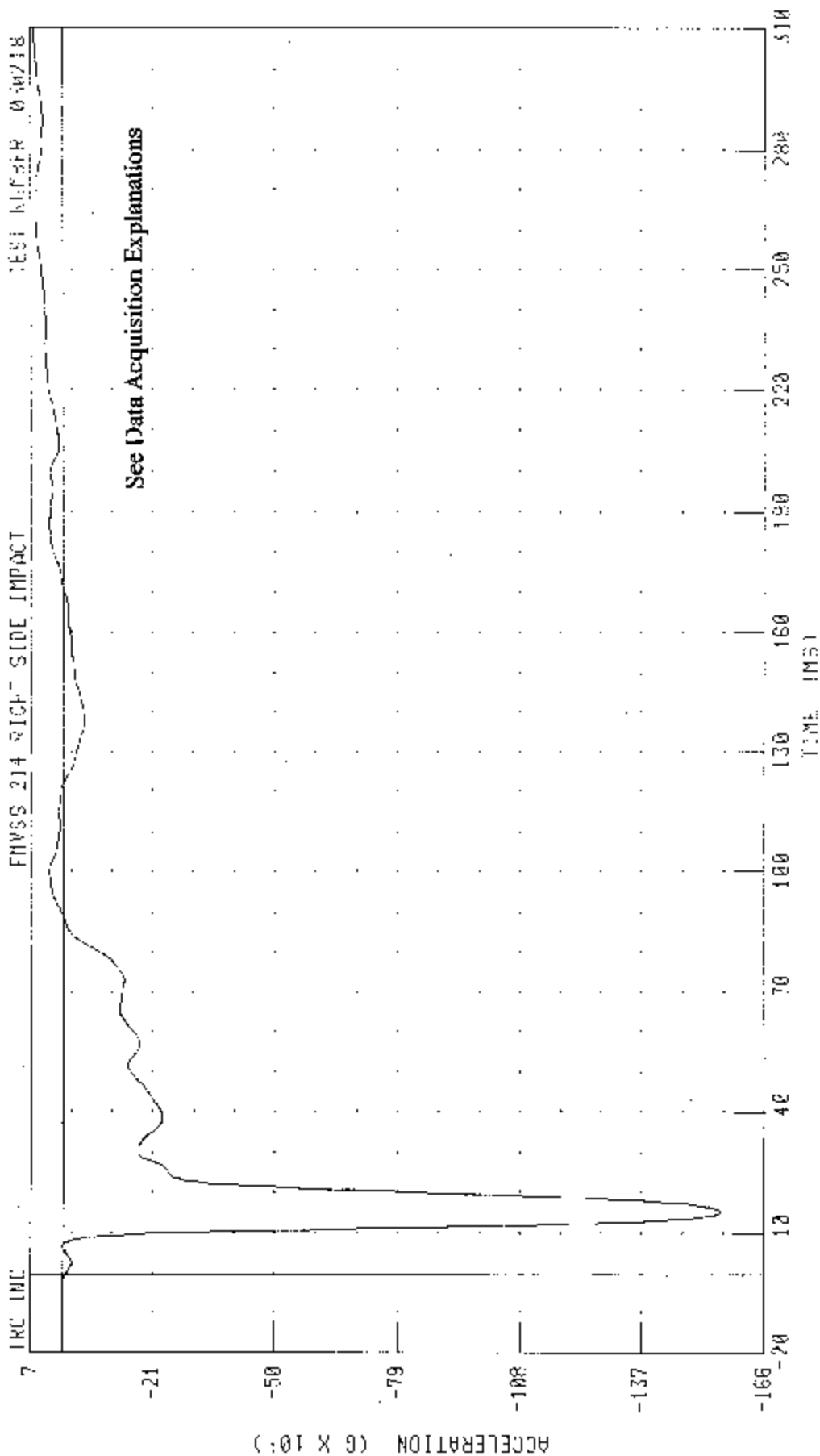
CHANNEL: RL4V1 FILTER: CIL CLASS 100

48/24 KPH 90 DEGREE SIDE IMPACT (MOVING DETECTABLE BARRIER) INTO RIGHT SIDE OF 2003 SUBARU (R6.1A)

RIGHT MIDDLE C-POST (Y-AXIS) ACCELERATION

FNVS 214 RIGHT SIDE IMPACT

TEST NUMBER 040218



CHANNEL: RMAY01 FILTER: CH. CLASS 60

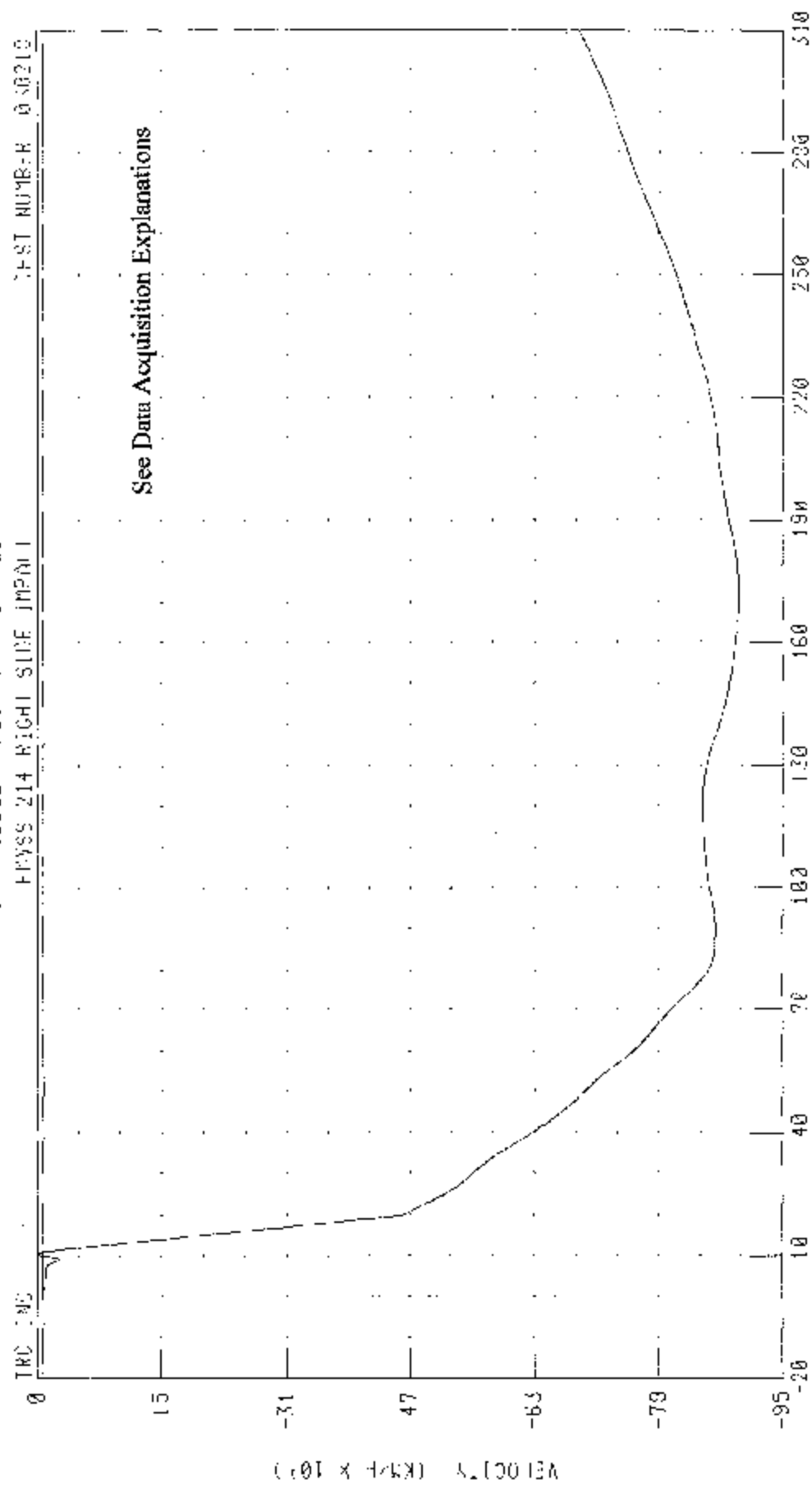
PEAK DATA: 70.73 G @ 309.36 MS, -1559.91 G @ 15.36 MS

48/24 VFF 50 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO RIGHT SIDE OF 2003 SUBPUL 3000

RIGHT SIDE 4 POST Y AXIS VELOCITY

PEAKS 214 RIGHT SIDE IMPACT

TEST NUMBER 000210

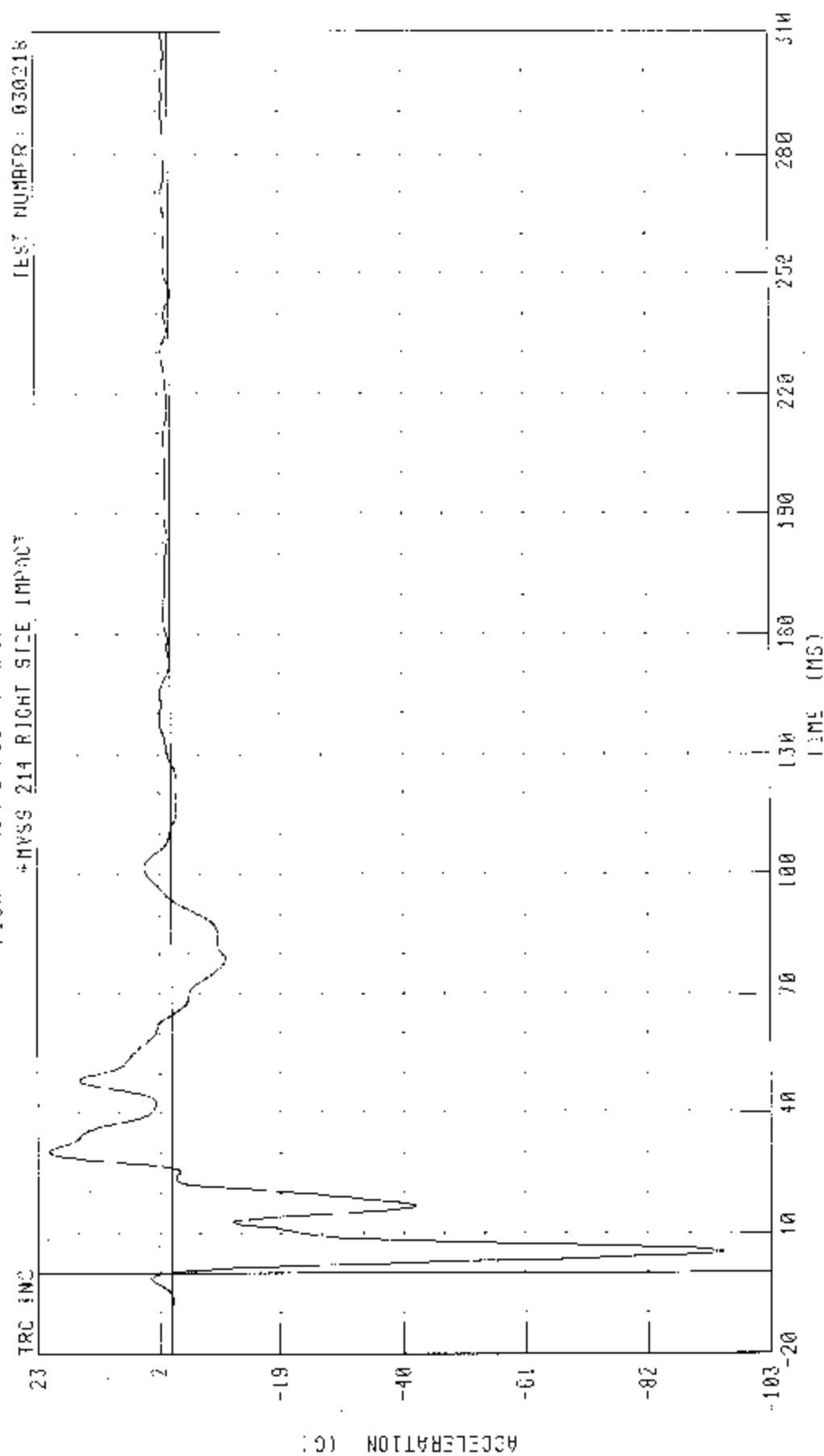


TIME (MS)

PEAK DATA 6 43 KM/H @ 10.50 MS, 896.20 KM/H @ 172.02 MS

CHANNEL: RMA001 FILTER: CH CLASS 100

48/24 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO RIGHT SIDE OF 2003 SUBARU BAJA
RIGHT INNER B-POST Y AXIS ACCELERATION



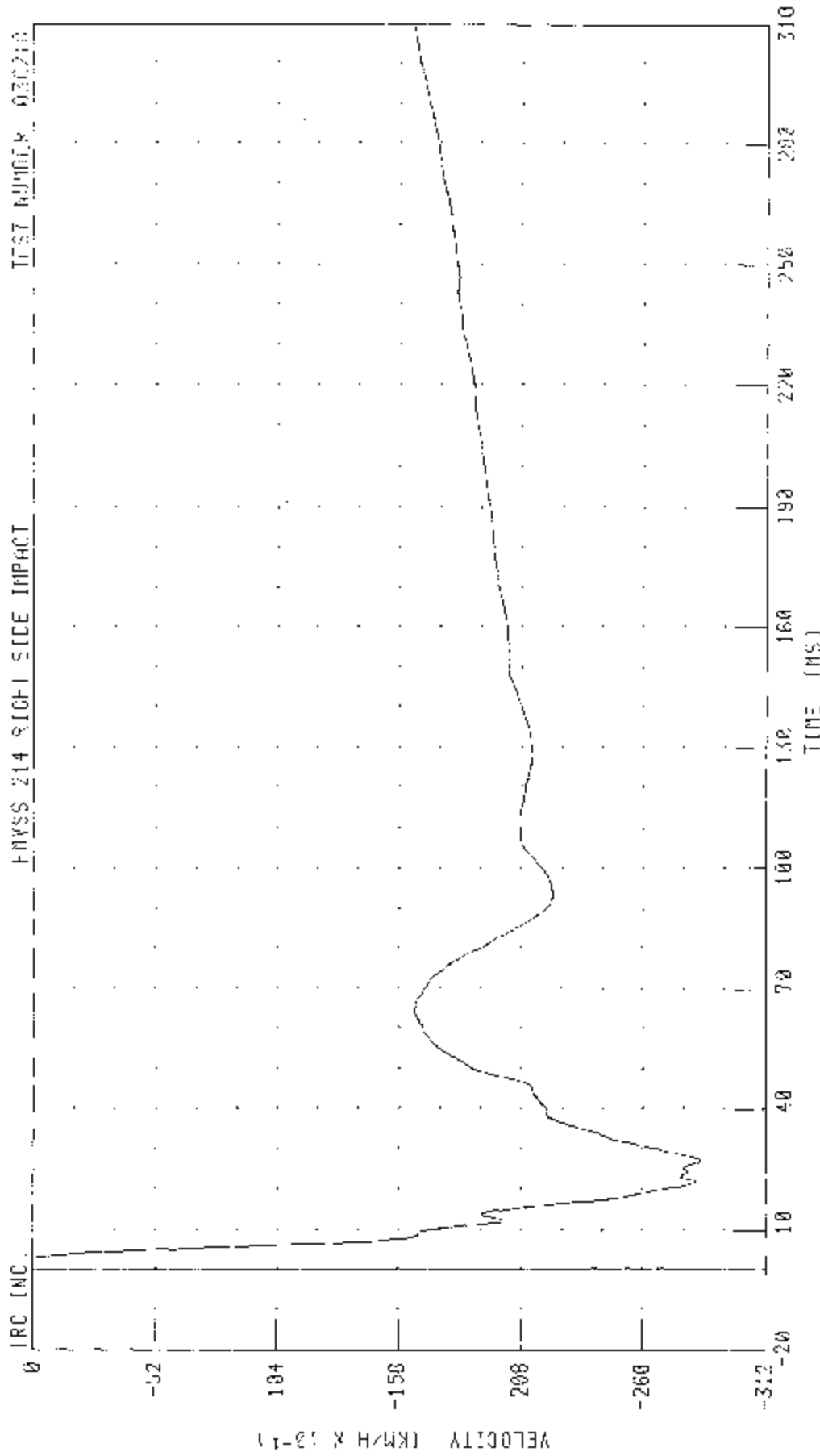
PEAK DATA: 21 04 0 0 30 64 MS, 94.92 G 0 5 70 MS

CHANNEL: RLBYG1 FILTER: CH. CLASS 60

48/24 MPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER INTO RIGHT SIDE OF 2023 SUBARU 54 JA

RIGHT LOWER C POST Y AXIS VELOCITY

HYSS 214 RIGHT SIDE IMPACT TEST NUMBER 030218



PEAK DATA 0 35 K/H H # 2 06 MS, -28 16 K/H H 0 27 12 MS

CHANNEL HLBVY1 FILTER CUI CLASS 180

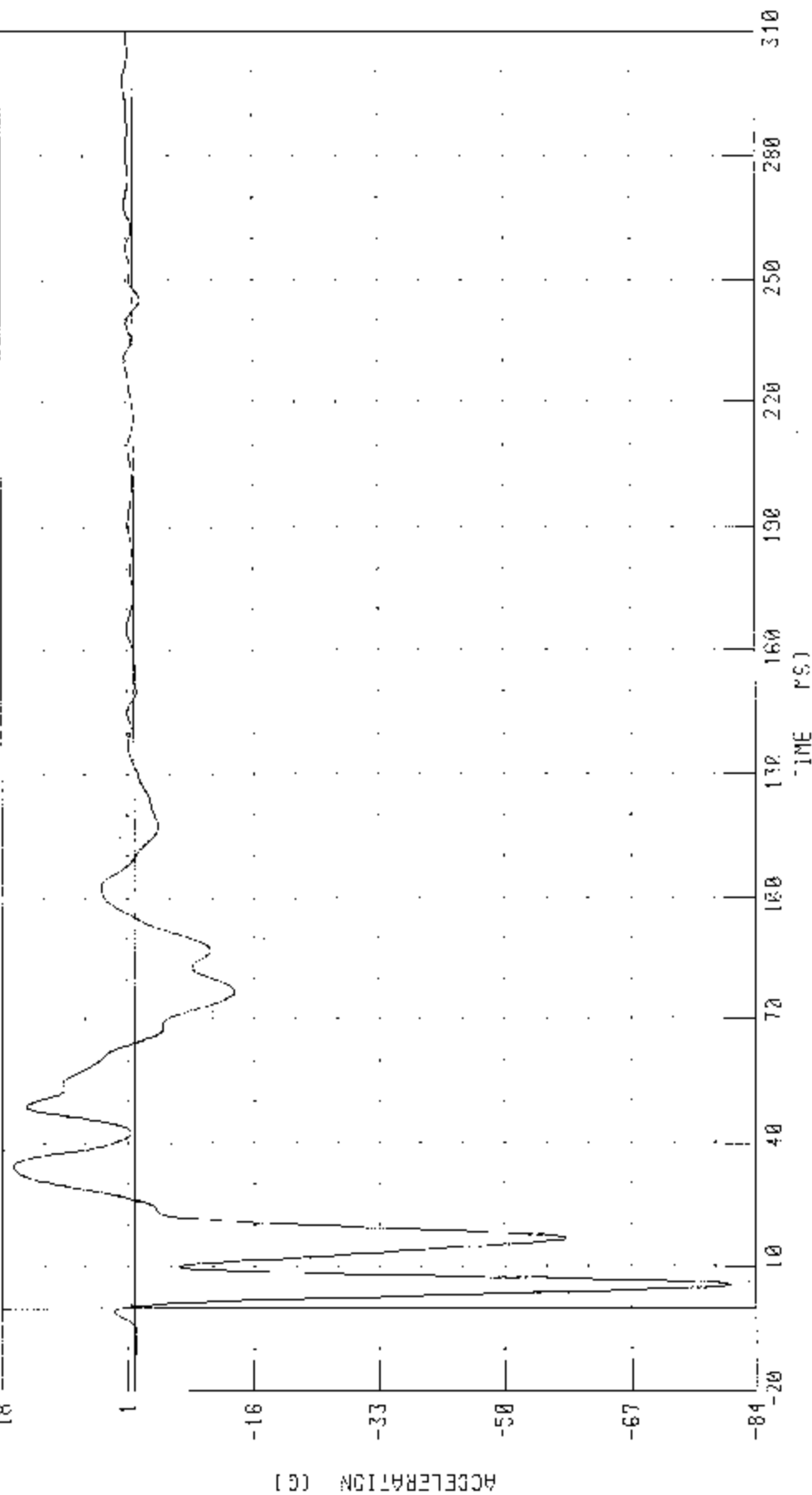
48/24 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMING BARRIER) INTO RIGHT SIDE OF 2003 SUBARU 34 JP

RIGHT MIDDLE E-POST Y-AXIS ACCELERATION

TEST NUMBER 030218

INVEST 214 RIGHT SIDE IMPACT

TRC INC



CHANNEL: RMBYG1 FILTER: CH. CLASS 00

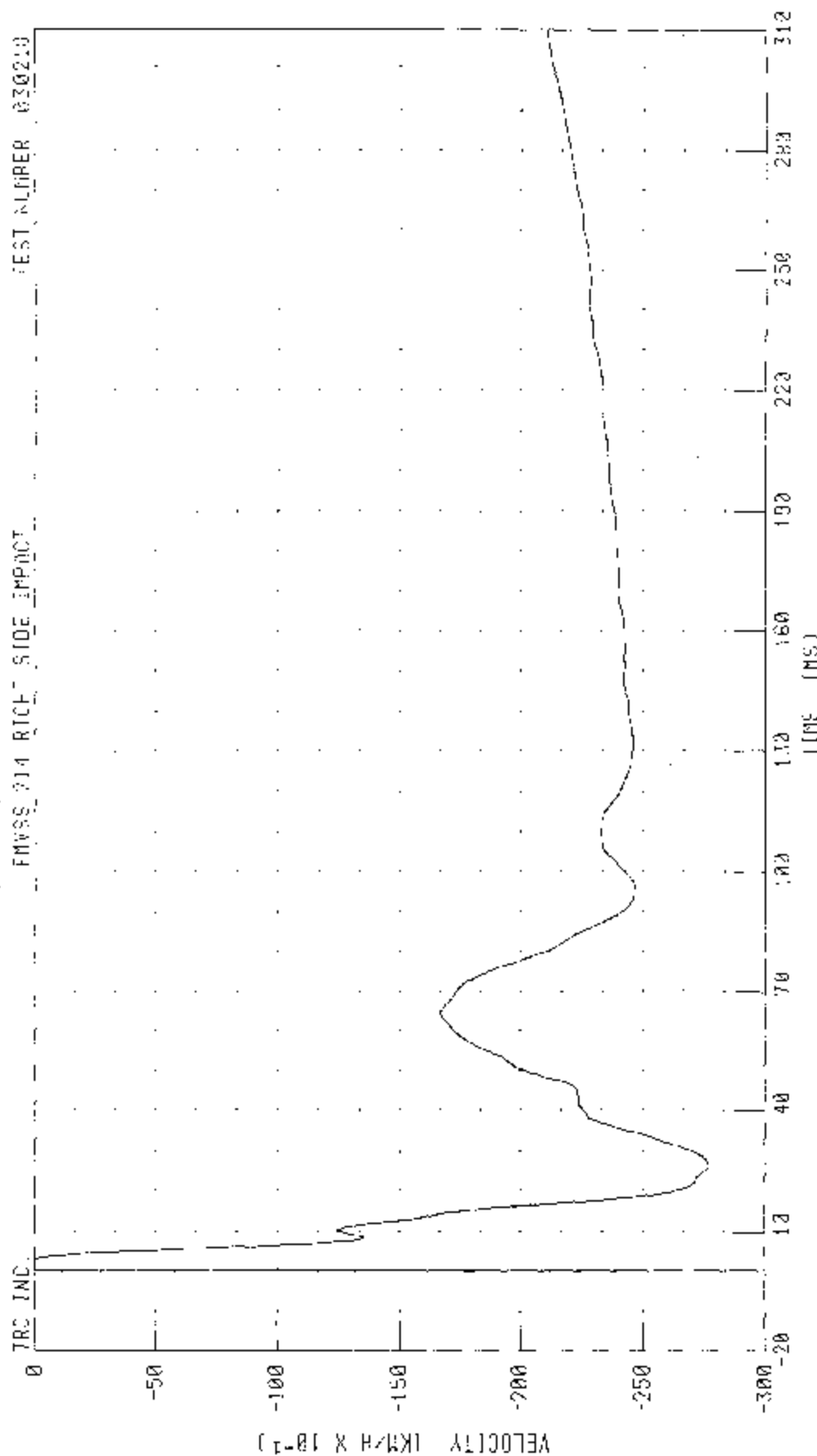
PEAK DATA: 16.06 G @ 34.32 MS, -00.56 G @ 5.84 MS

48/24 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO RIGHT SIDE OF 2007 SUBURJ DATA

RIGHT SURGE R-POST Y-AXIS VELOCITY

FMVSS 214 RIGHT SIDE IMPACT

TEST NUMBER 030218



CHANNEL: RM9VY1

FILTER: CH CLASS 180

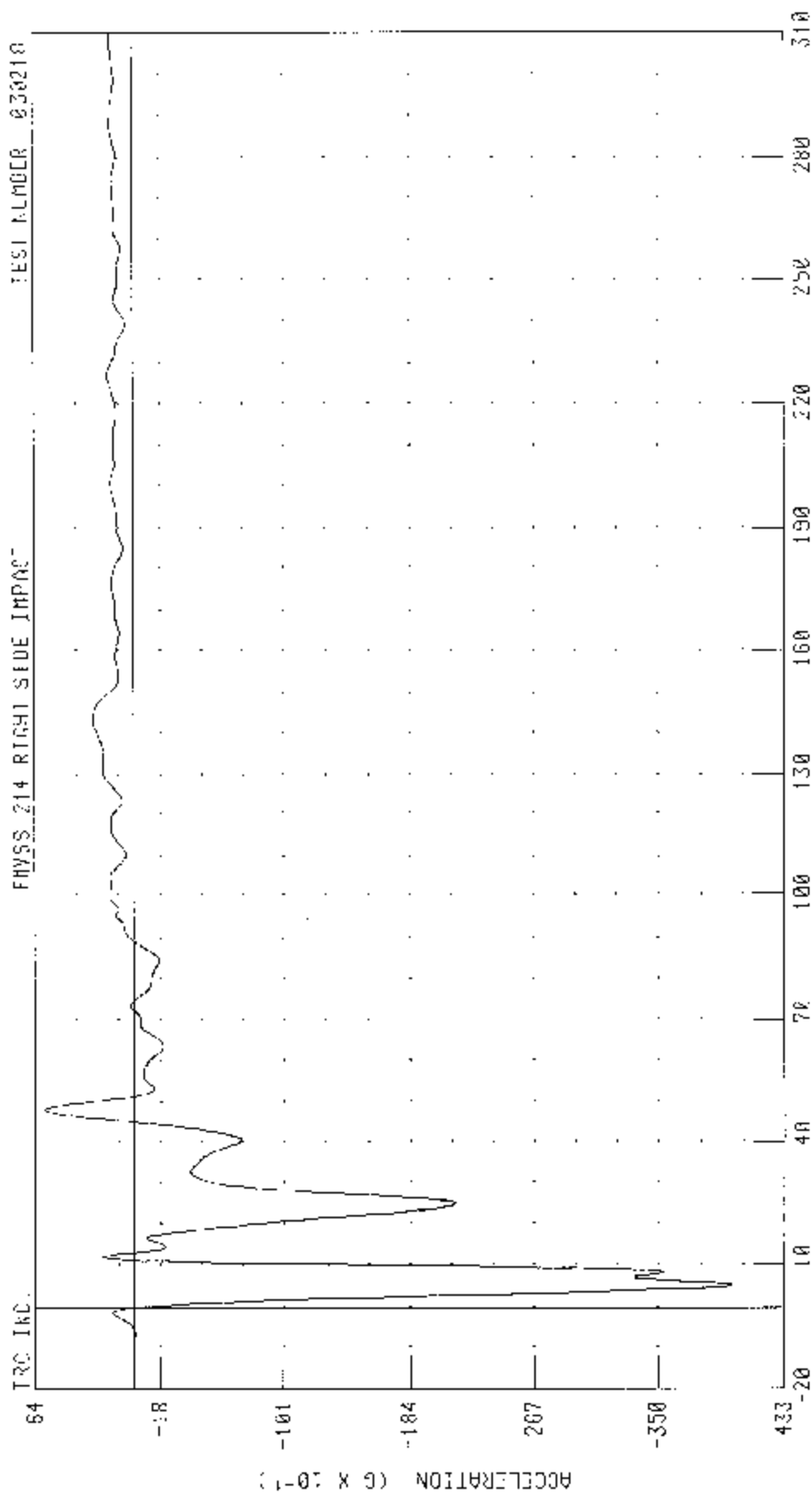
TIME (MS)

PEAK DATA 0 05 KPH @ 2.32 MS, -27.70 KPH @ 28.56 MS

48/74 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) END RIGHT SIDE OF 2003 SUB430 PAGE

RIGHT FRONT SEAT ROCK T-AXIS ACCELERATION

FRYSS 214 RIGHT SIDE IMPACT TEST NUMBER 030218



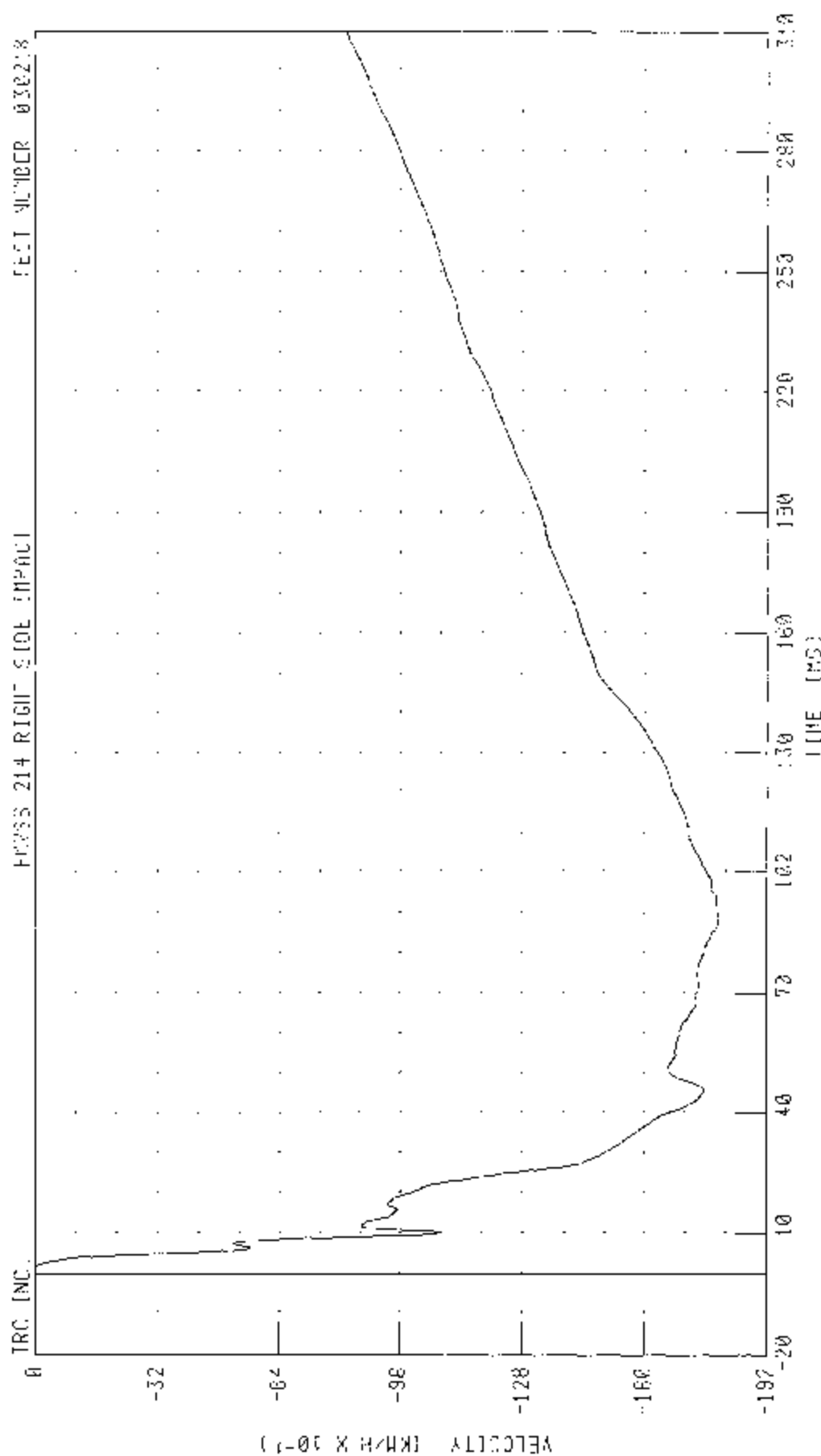
CHANNEL: RFTYC FILTER: CH. CLASS 60 PEAK DATA: 5 92 G @ 47 92 MS; -59.77 G @ 4.96 MS

48/24 MPH 52 MILES SIDE IMPACT (RTV, INC. DEFORMABLE BARRIER) INTO RIGHT SIDE OF 2003 OLDSMOBILE BUICK

RIGHT FRONT SENT TRACK Y-MMS VELOCITY

POSS 214 RIGHT SIDE IMPACT

FEET NUMBER 030218



PEAK DATA 0 02 MPH 0 00 MS, -17.96 KPH 0 89.52 MS

CHANNEL: RFTV01 FILTER CH. CLASS: 160

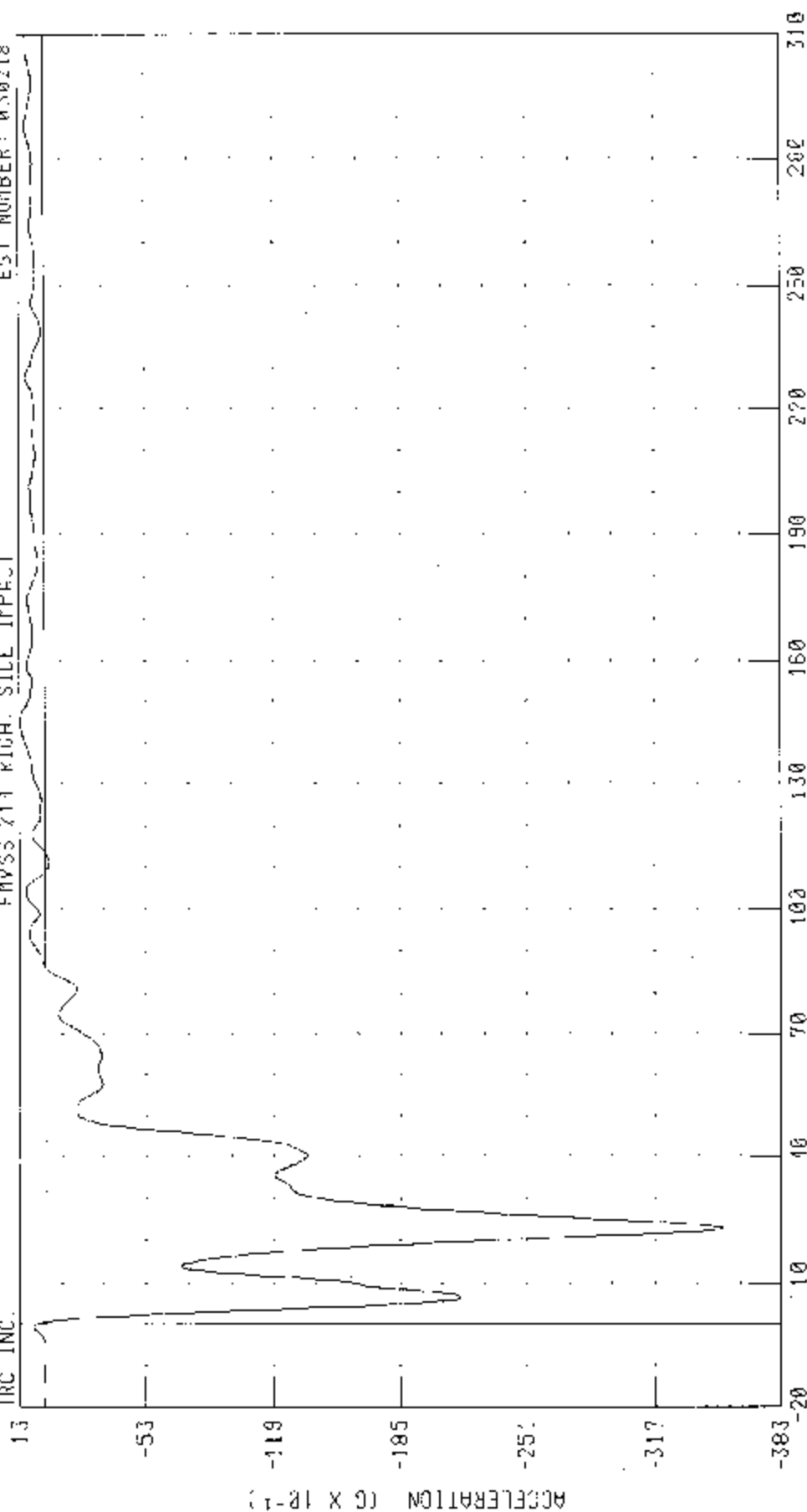
48/24 KP+ 90 INCHES SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO RIGHT SIDE OF 24X5 SUBARU BARN

RIGHT REAR SENT BACK Y-AXIS ACCELERATION

PMVSS 214 RIGHT SIDE IMPACT

TEST NUMBER: 030218

TRC INC.



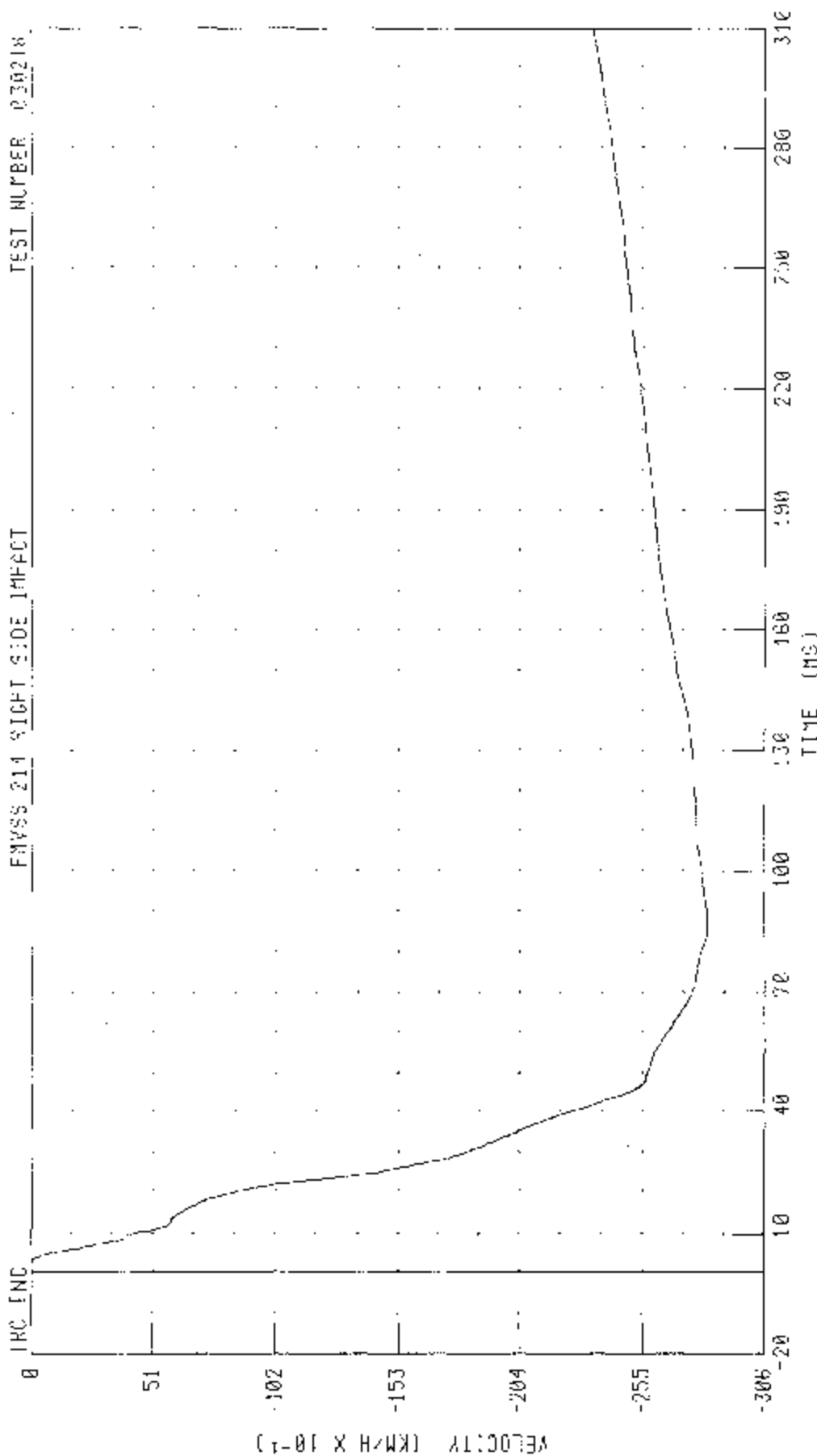
TIME (MS)

CHANNEL: RRTYC1 FILTER: CH. CLASS 60 PFAX DATA 1 26 5 0 144 56 MS. 35.18 0 0 23.23 MS

48/24 KPH 50 DEGREE SIDE IMPACT (MOVING DEFORMER) - BARRETT INTO RIGHT SIDE OF 2000 SUZUKI R10A

RIGHT REAR SEAT TRACK Y-AXIS VELOCITY

FRYSS 214 RIGHT SIDE IMPACT TEST NUMBER 030218



PEAK DATA: 0.00 KPH @ 0.00 MS; -28.19 KPH @ 0.05.50 MS

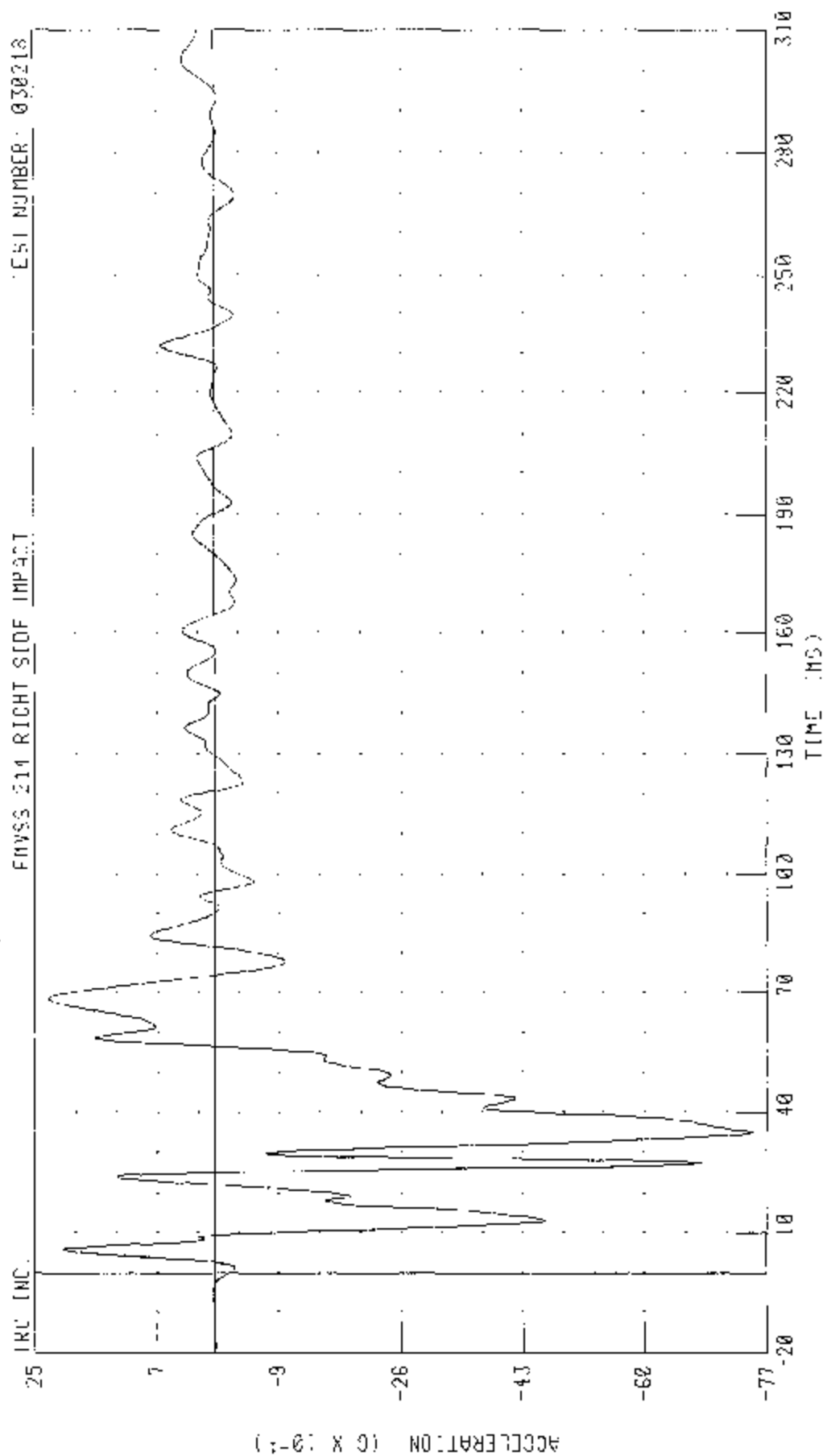
CHANNEL: R3TYV1 FILTER: CH. CLASS 100

48/24 MPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO RIGHT SIDE OF 2405 S. RARU RD. JA

VEHICLE CENTER OF GRAVITY X-AXIS ACCELERATION

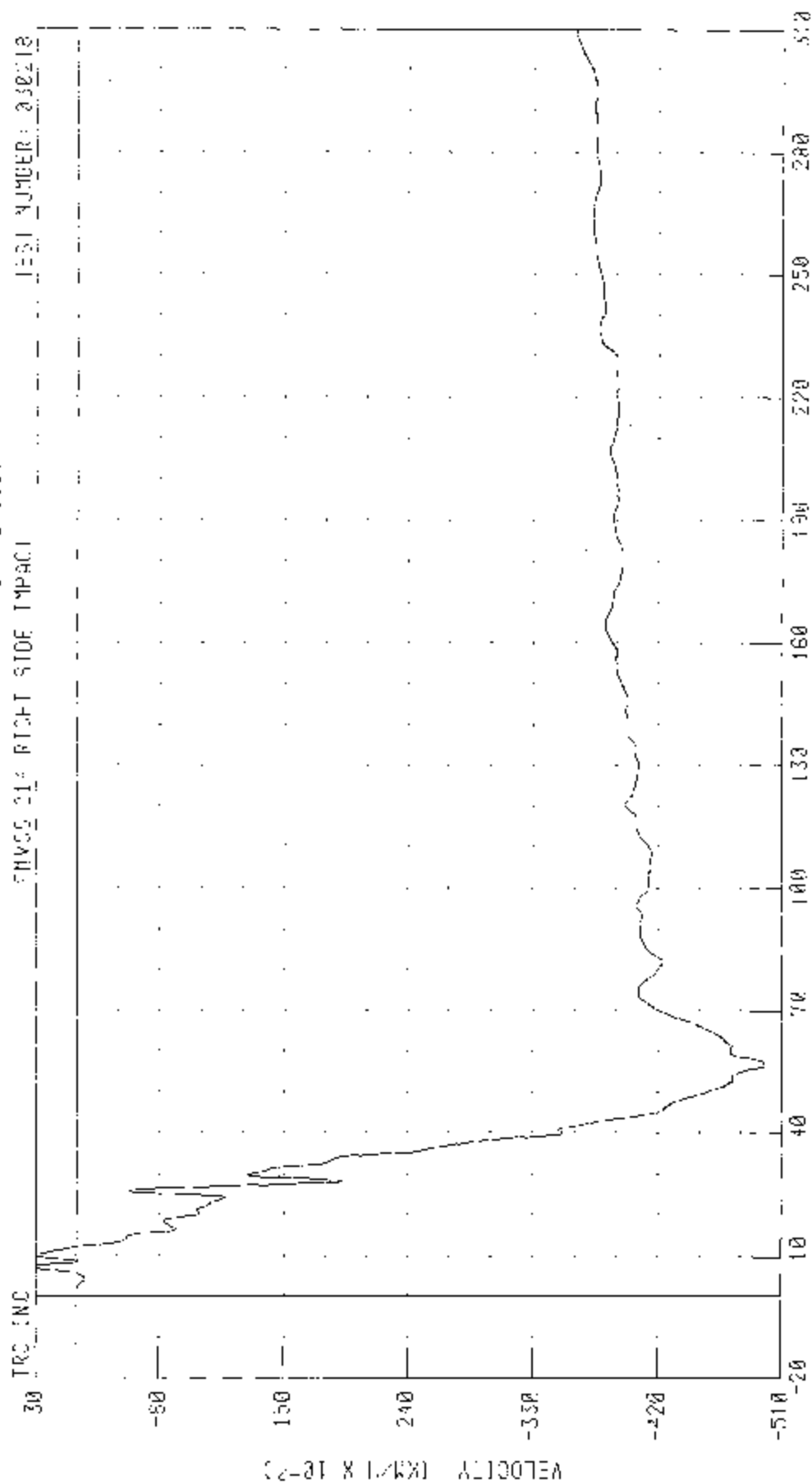
FMVSS 214 RIGHT SIDE IMPACT

ESI NUMBER: 030218



10/14 KPH 90 DEGREE SIDE IMPACT (MOVING OFFROADABLE BUFFER) INTO RIGHT SIDE OF 2003 SUBARU P4JA

VEHICLE CENTER OF GRAVITY X-AXIS VELOCITY



TEST NUMBER: 030218

TIME (MS)

CHANNEL: VCCXV: FILTER: C11 CLASS: 180 PLEX DATA: 0.36 KPH 90 DEGREE SIDE IMPACT INTO RIGHT SIDE OF 2003 SUBARU P4JA

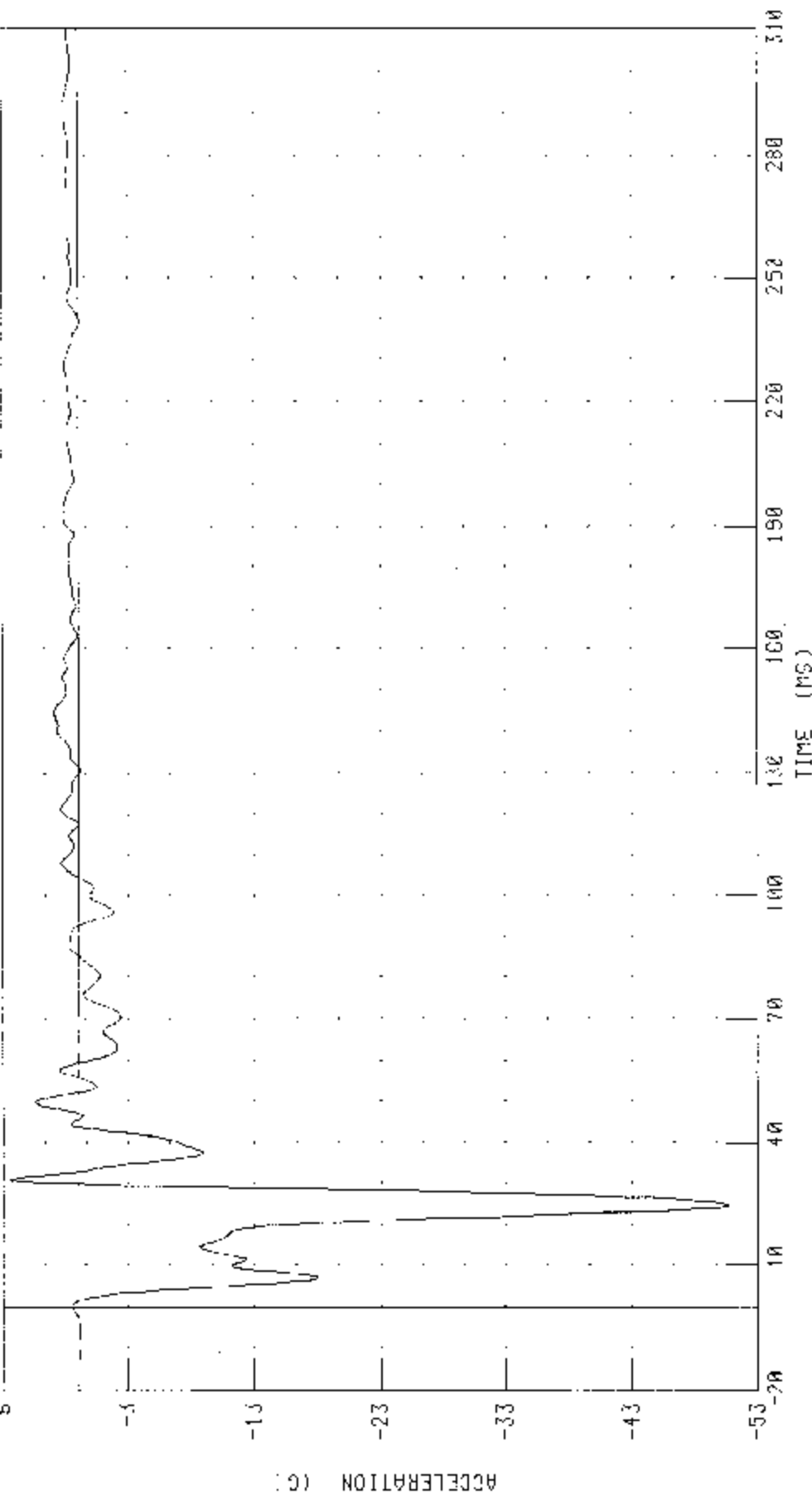
48°24' (PH 90 DEGREE SIDE IMPACT MOVING DEFORMABLE BARRIER) INTO RIGHT SIDE OF 2003 SUBARU 30JA

VEHICLE CENTER OF GRAVITY Y AXIS ACCELERATION

6 TRC INC.

FMVSS 214 RIGHT SIDE IMPACT

TEST NUMBER 030218

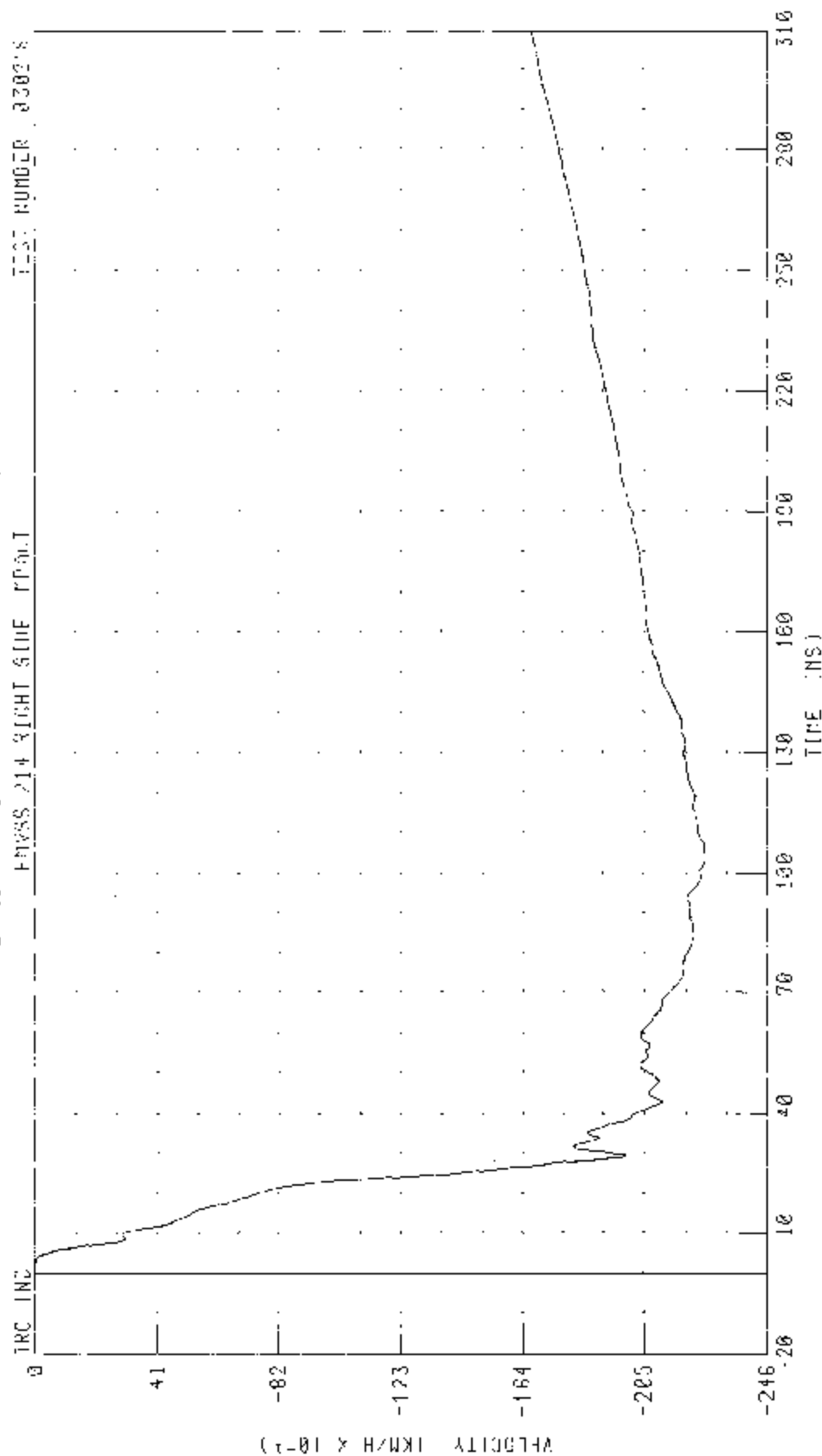


CHANNEL: VCCYC1 FILTER: CH. CLASS 60

PEAK DATA: 0.55 G @ 51.04 MS, 01.04 G @ 24.77 MS

48/24 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE ENERGY) INTO RIGHT SIDE OF 2000 SUB-900 55.00

VELOCITY AFTER OF GRAVITY Y-AXIS VELOCITY



CHANNEL: VCGYV1 FILTER: CH CLASS 130

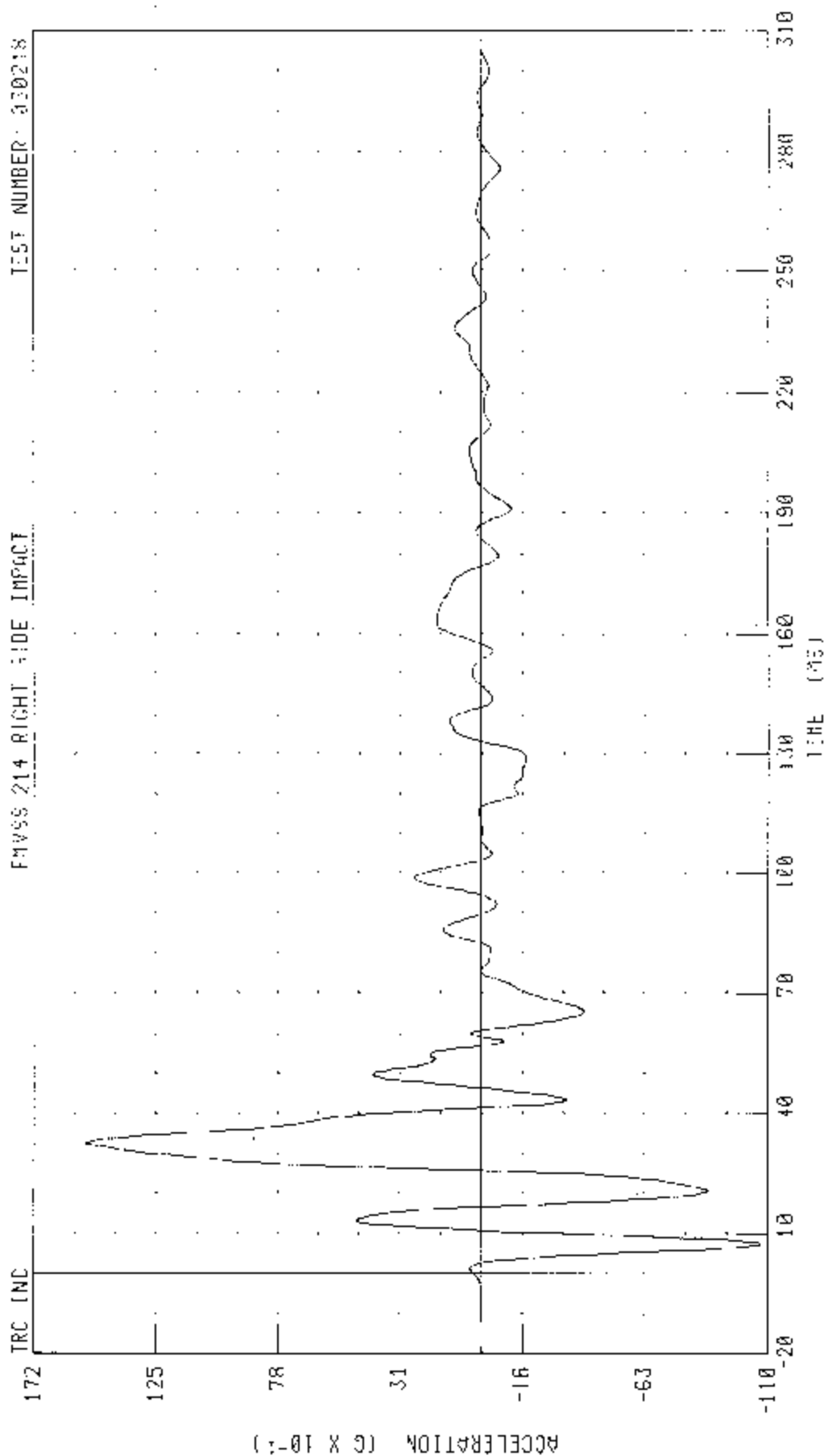
PFAX DATA: 0.00 KPH @ 0.03 MS, -22.54 KPH @ 0.03 MS

48/24 KPH 50 DEGREE SIDE IMPACT MOVING DEFORMABLE BARRIER INTO RIGHT SIDE OF 2003 SUBURB BALT

VEHICLE CENTER OF GRAVITY Z AXIS ACCELERATION

FMVSS 214 RIGHT SIDE IMPACT

TEST NUMBER: 030218



CHANNEL: VC0203

FILTER: CH. CLASS 00

TIME (MS)

PEAK DATA: 15 26 0 8 32 56 MS; -10.74 0 8 7 60 MS

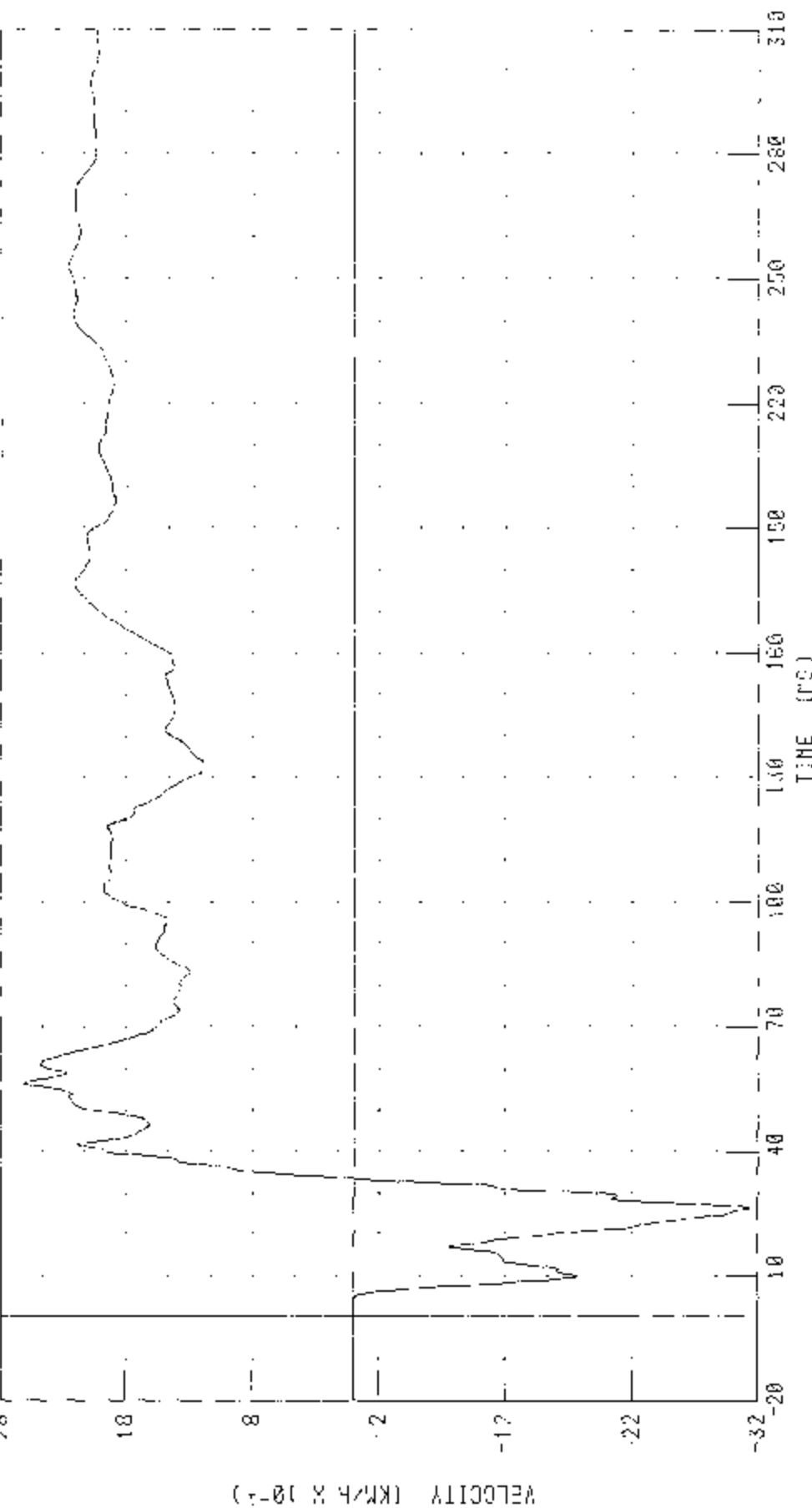
48°24' 30" DEGREE SIDE IMPACT UNCLIPPING ELFORPESL BARRIERS INTO RIGHT SIDE OF 2003 SLEAPU B&IA

VELOCITY CENTER OF GRAVITY Z-AXIS VELOCITY

IMPACT 214 RIGHT SIDE IMPACT

TEST NUMBER 030218

TRC INC.



CHANNEL: VCGZV1 FILTER: CH. CLASS 180

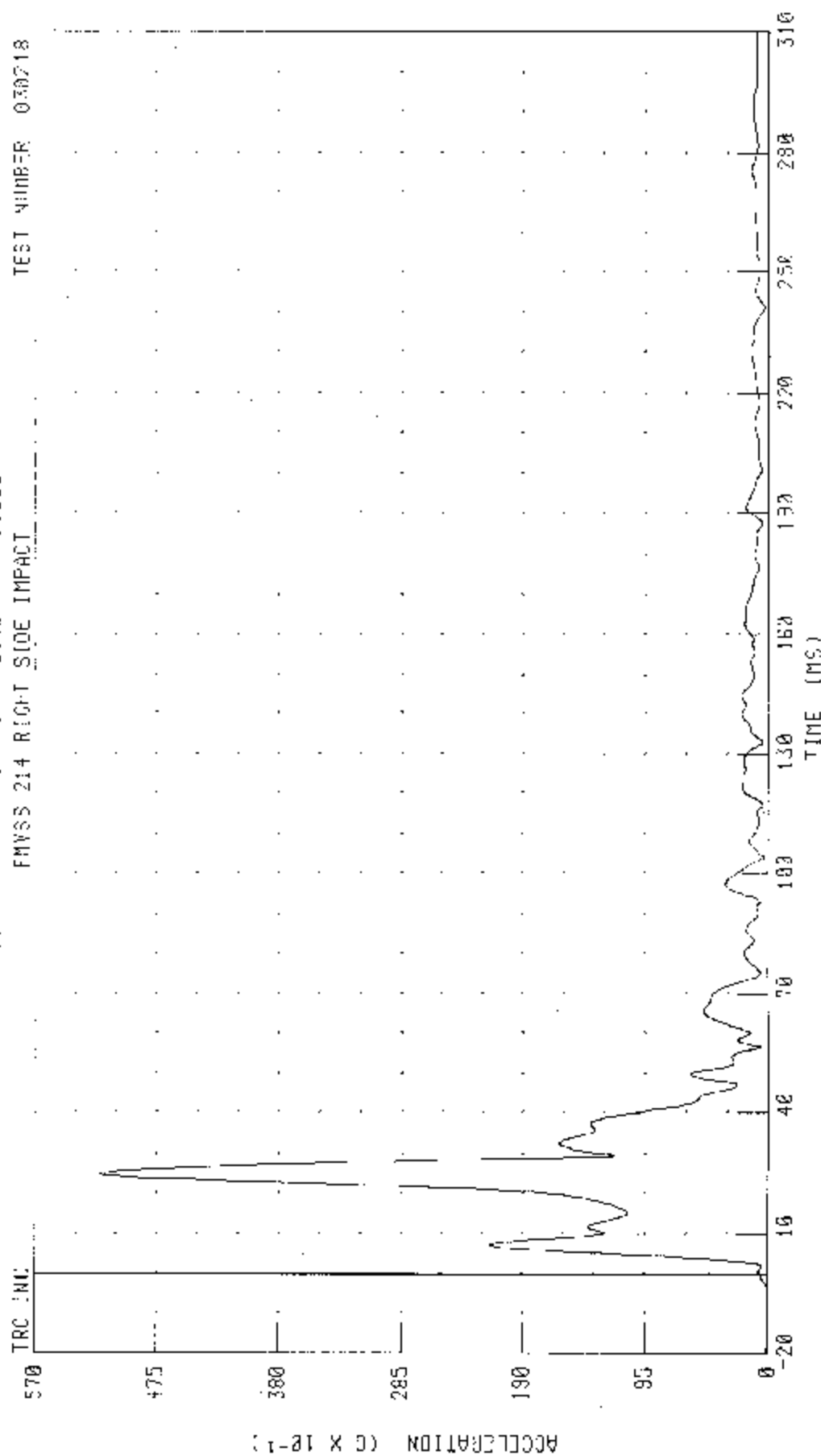
PEAK DATA 2.62 KM/H @ 56.48 MS, -3.14 KM/H @ 26.00 MS

43/24 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO RIGHT SIDE OF 2000 SJ3AR - BAJA

VEHICLE CENTER OF GRAVITY RESOLUTION ACCELERATION

FMVSS 214 RIGHT SIDE IMPACT

TEST NUMBER 030218



CHANNEL: VCCRG1 FILTER: CH CLASS: 00

WAK DATA: 51.84 G @ 24.64 MS, 3.01 G @ -17.76 MS

MDB Instrumentation Plots

Acceleration Data - Filter Class 60

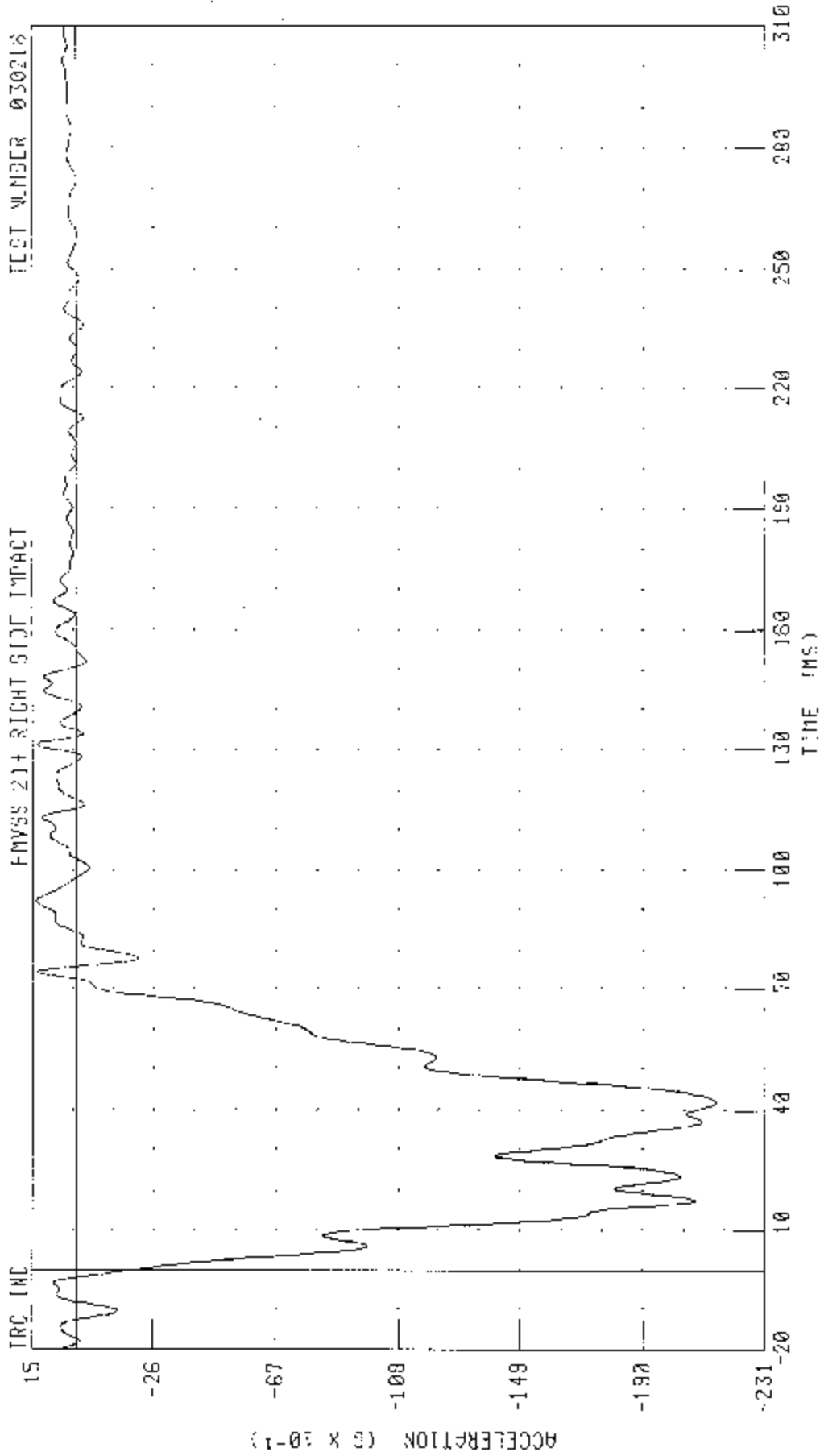
Integration Data - Filter Class 180

48/24 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) IN FLIGHT SIDE OF 2003 SUBP20 0-406

HGB CENTER OF GRAVITY X-AXIS ACCELERATION OR

FMVSS 214 RIGHT SIDE IMPACT

TEST NUMBER 030218



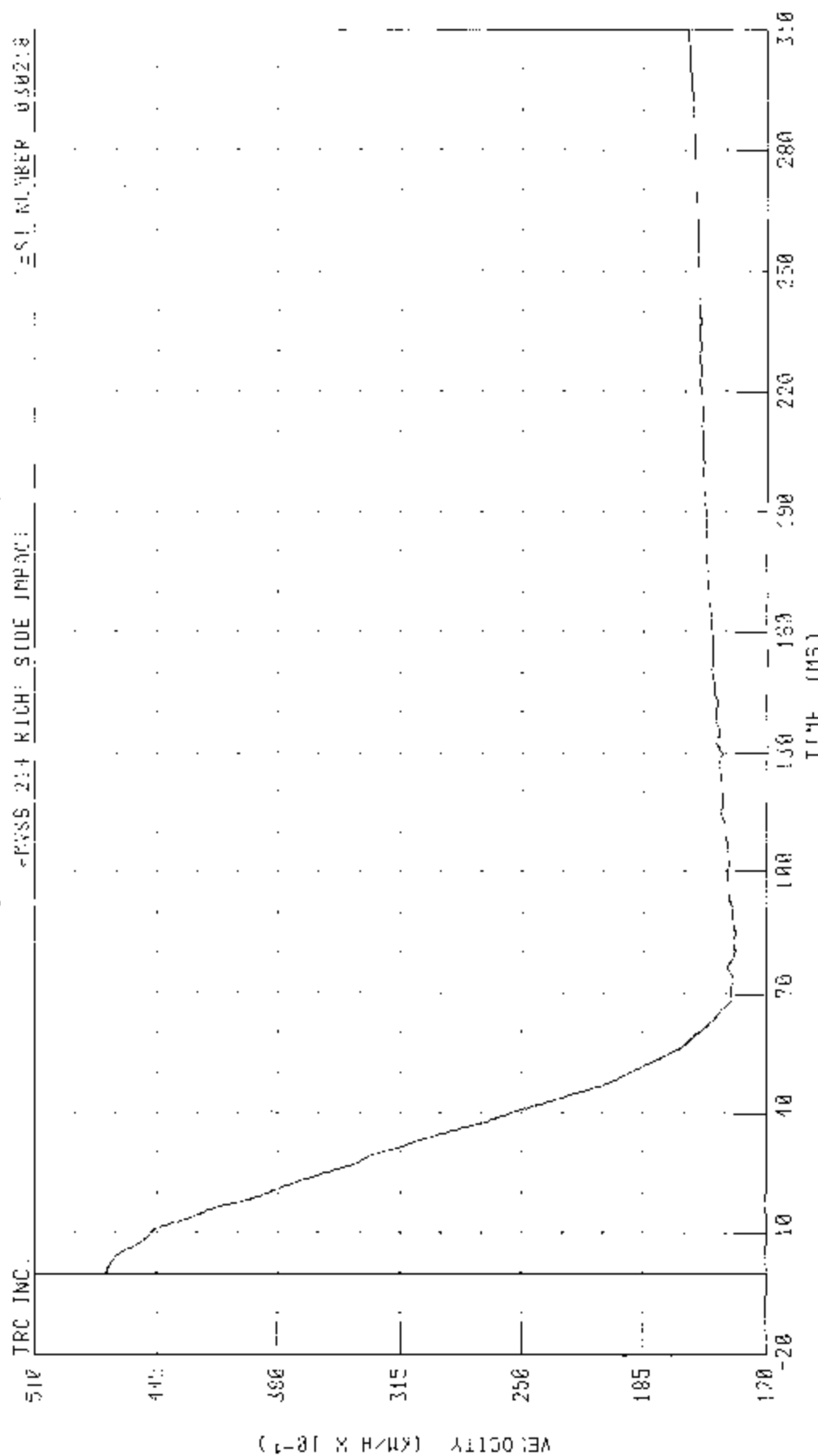
CHANNEL BCGXG1 FILTER: CH. CLASS 60

PEAK DATA: 1.37 0.0 74.80 MS, -71.46 0.0 42.16 MS

43/24 <PH 30 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO RIGHT SIDE OF 2003 SUREGU BAY

TOP LEVIER OF GRAVITY X-AXIS POSITION

TRC INC. TEST NUMBER 030218



TIME (MS)

PEAK DATA 47 28 KM/H 3 2.00 MS, 13.65 KM/H 0 34 80 MS

CHANNEL 900KV1 FILTER: CH. CLASS 180

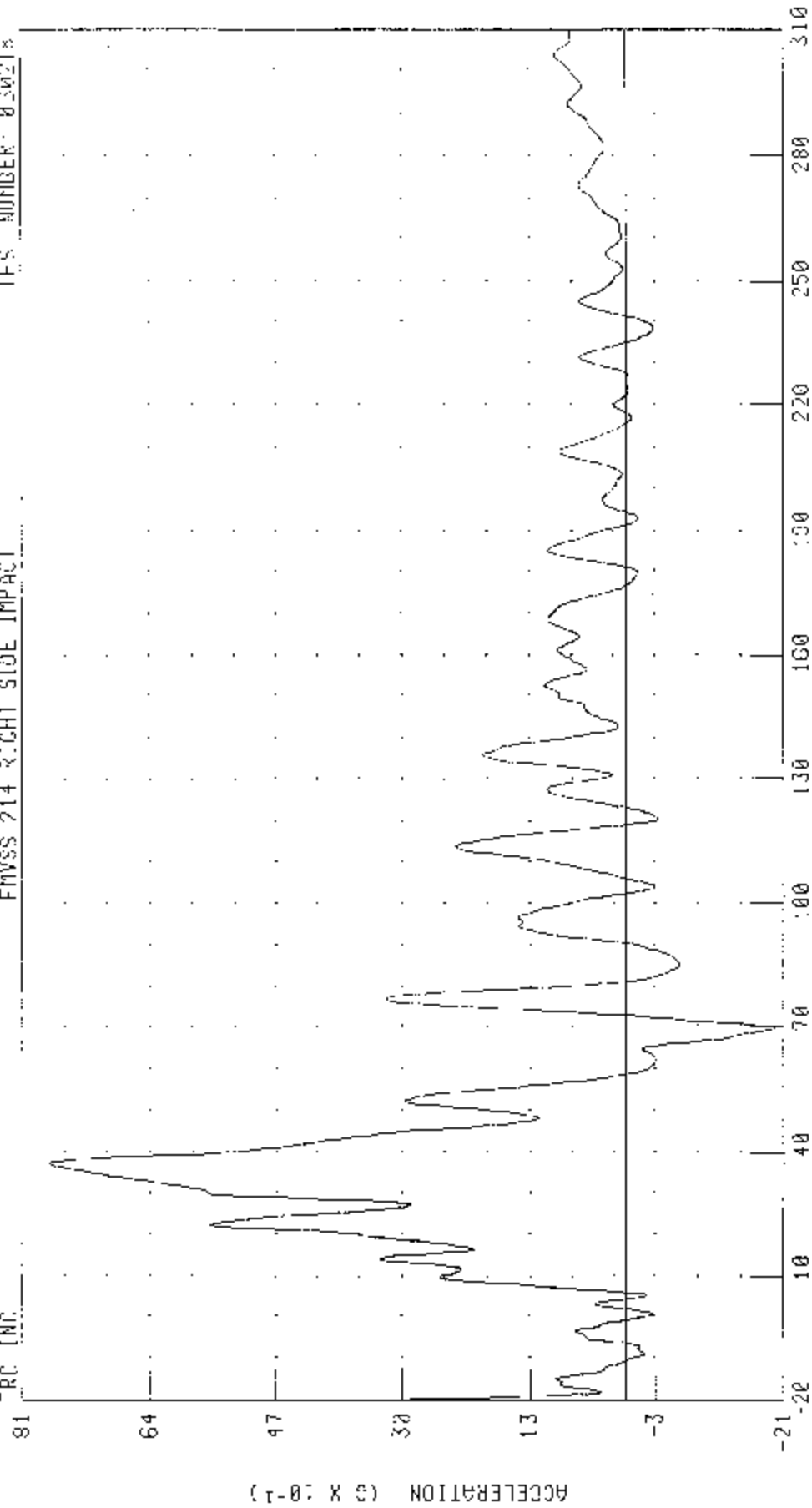
48/24 KPH 30 DEGREE SIDE IMPACT (MOVING DEFENDABLE BARRIER) INTO RIGHT SIDE OF 2003 CUBNEL: R0.4

100 CENTER C- GRAVITY Y-AXIS ACC. P-ATION

FMVSS 214 RIGHT SIDE IMPACT

TEST NUMBER: 030218

RC INC



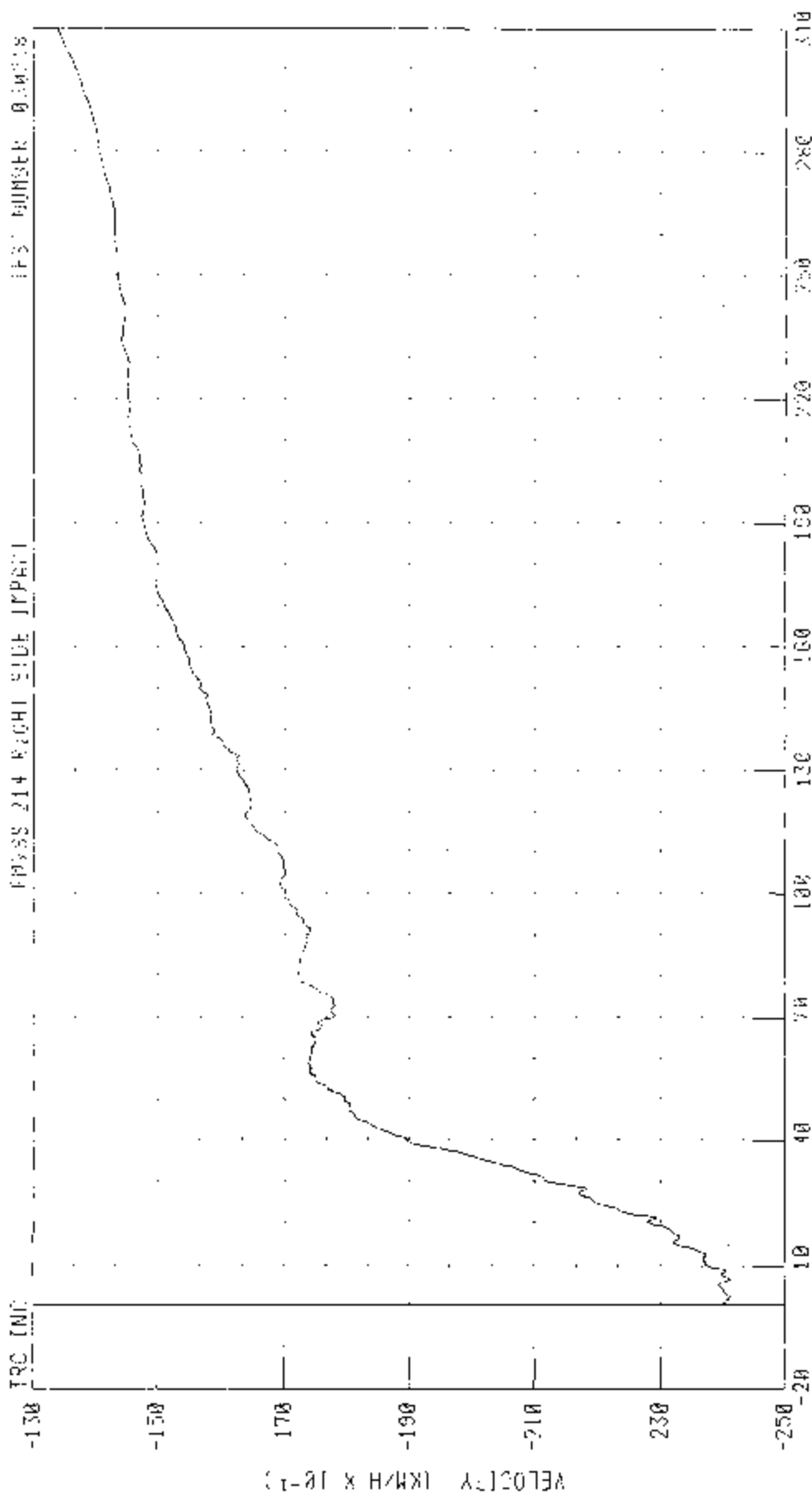
PEAK DATE 7 75 G @ 37.36 MS. -1.98 G @ 69.60 MS

48/24 KPH 90 DEGREE SIDE IMPACT (MOVING TOWARD RIVER) INTO RIGHT SIDE OF 2003 SUBSED DATA

FOR CENTER OF GRAVITY X AXIS VELOCITY

PROCESS 214 RIGHT SIDE IMPACT

TEST NUMBER 030218



TIME (MS)

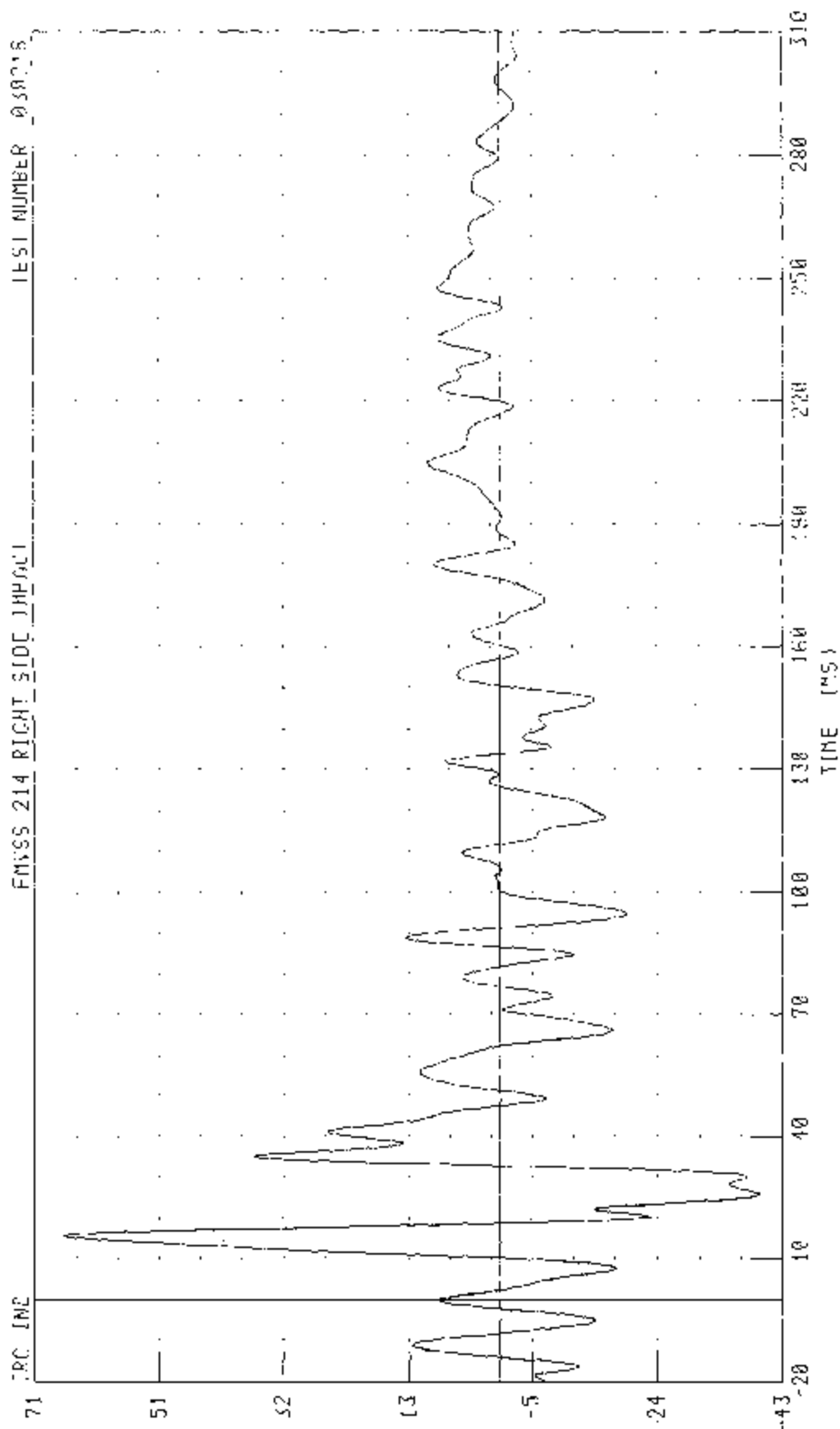
PEAK DATA: -13.39 KPH @ 310.00 MS, 22.11 KPH @ 6.64 MS

CHANNEL BCCV4 FILTER: CIL CLASS 100

48/24 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO FRONT JUNE OF 2003 SUBARU B&B

HCB CENTER OF GRAVITY Z-AXIS ACCELERATION

FMSS 214 RIGHT SIDE IMPACT TEST NUMBER 030218



CHANNEL ECC261 FILTER: CH CLASS 60

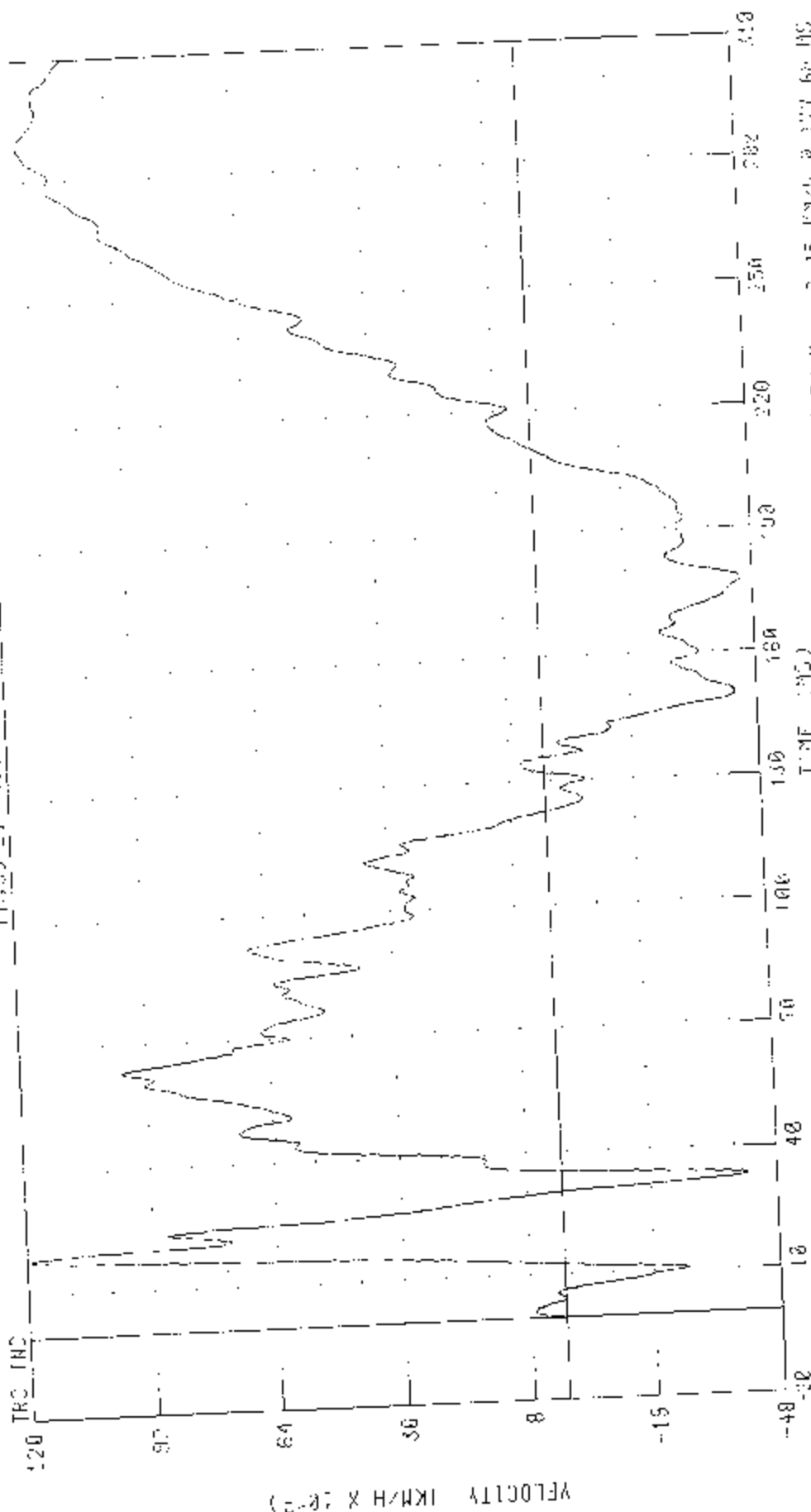
PEAK DATA 6 00 0 9 15 92 MS, 3 95 0 0 25.68 MS

46/24 420 90 DEGREE SIDE IMPACT - 100% DEFORMABLE REPERFED INTO FRONT SIDE OF 2021 BUREAU 10.0

100 CENTER OF GRAVITY / 4000 VELOCITY

TEST NUMBER 020218

TRUCK 211 RIGHT SIDE IMPACT



PEAK DATA : 14 KM/H @ 13.50 MS, 3.45 KM/H @ 177.60 MS

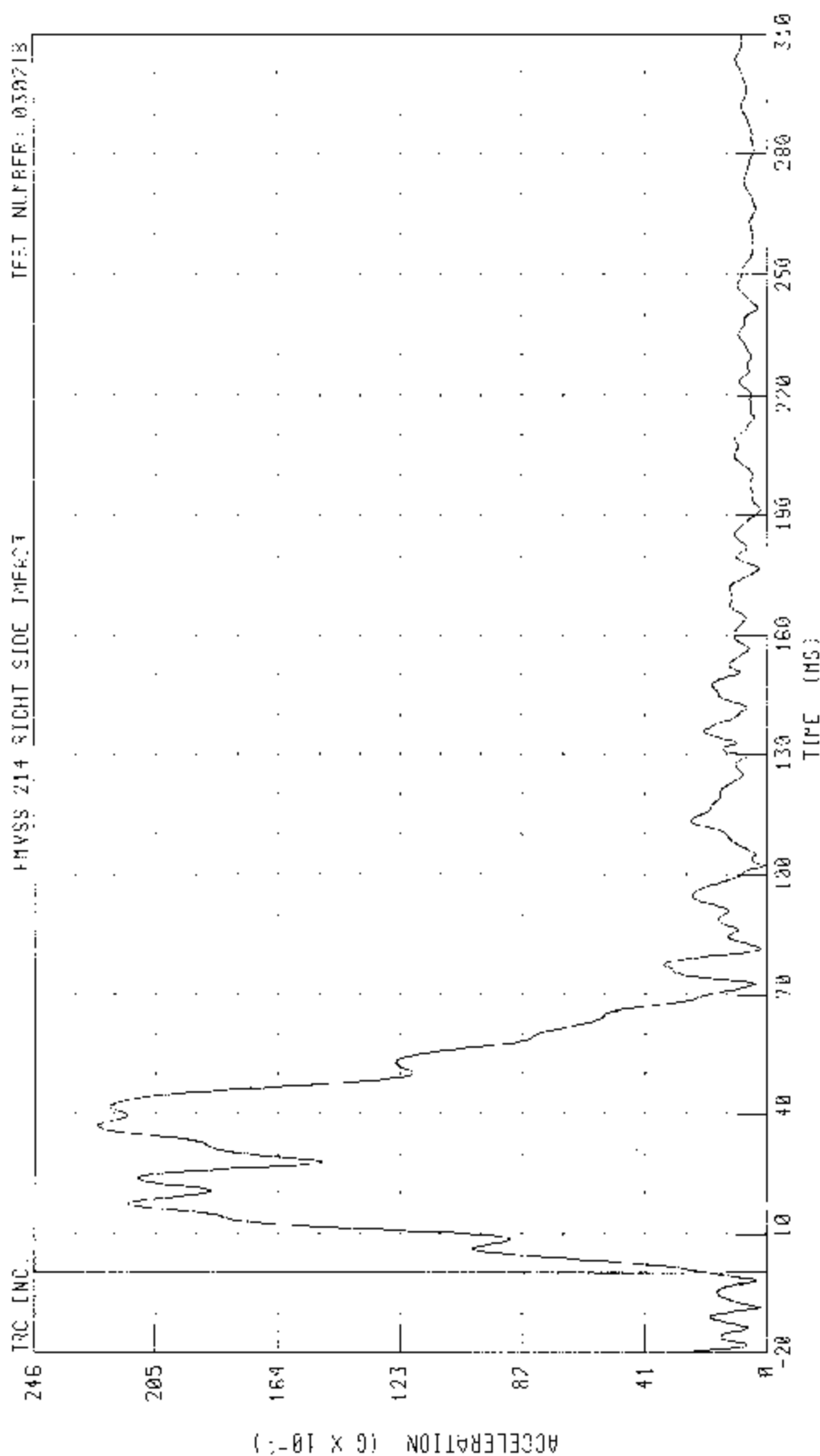
CHANNEL BUC2H1 FILTER CH. CLASS 180

48/24 KPH 90 DEGREE SIDE IMPACT (MOVING, DEFORMABLE BARRIER, IN THE RIGHT SIDE OF 2003 SUBARU 34JA

NOB CENTER OF GRAVITY RESULIN ACCELERATION

TEST NUMBER: 030218

HMVS 214 RIGHT SIDE IMPACT



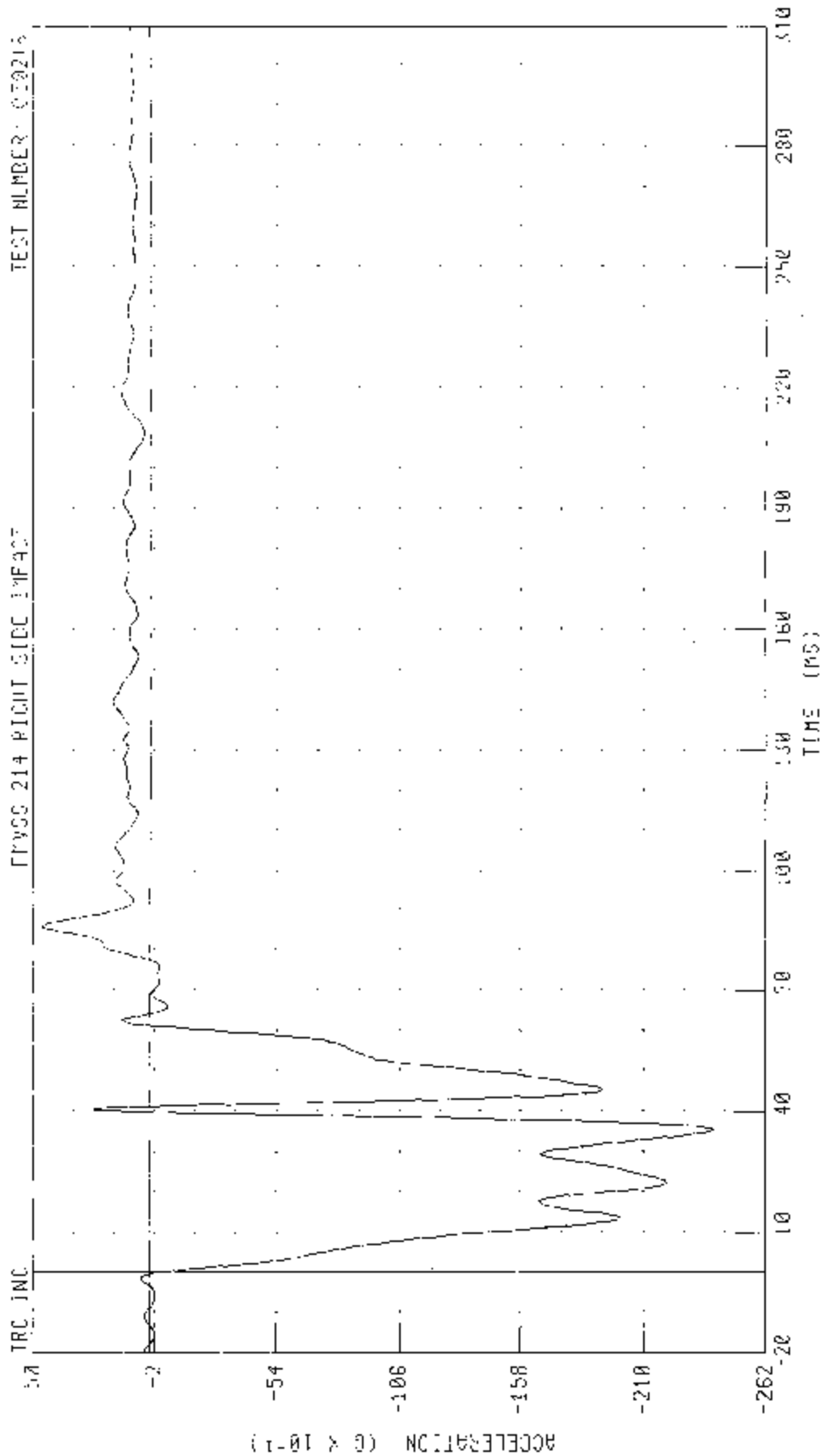
CHANNEL: 30CRG1 FILTER: CH. CLASS: 60

PEAK DATA 22.47 3 0 35 80 MS; 0.04 0 0 102 48 MS

48/24 KPH 30 DEGREE SIDE IMPACT (MOVING OFF-CENTER BARRIER) INTO RIGHT SIDE OF 2002 SUBARU 8A14

FOR RIGHT HAND X-AXIS ACCELERATION

TRC, INC. TEST NUMBER: 030218



CHANNEL: HRRXC1 FILTER: CH CLASS: 60

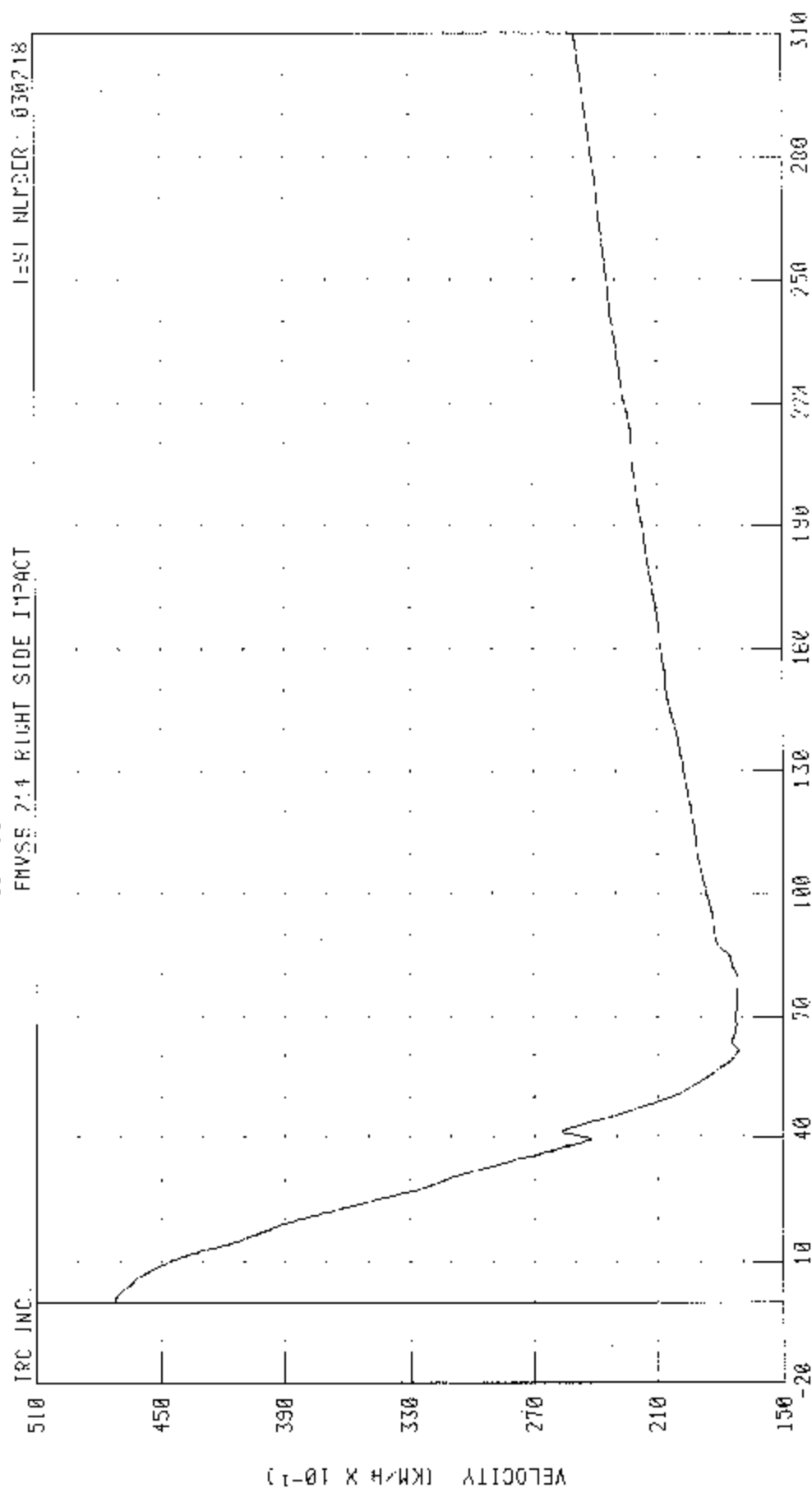
PEAK DATA: 4 57 0 3 80.16 MS, 27 00 0 3 35.36 MS

48/24 KPH 90 DEGREE SIDE IMPACT MOVING DEFORMABLE BARRIER INTO RIGHT SIDE OF 2003 SUBARU BH-A

103 RUC-1 REAR X AXIS VELOCITY

FMVSS 214 RIGHT SIDE IMPACT

TEST NUMBER: 030218



TIME (MS)

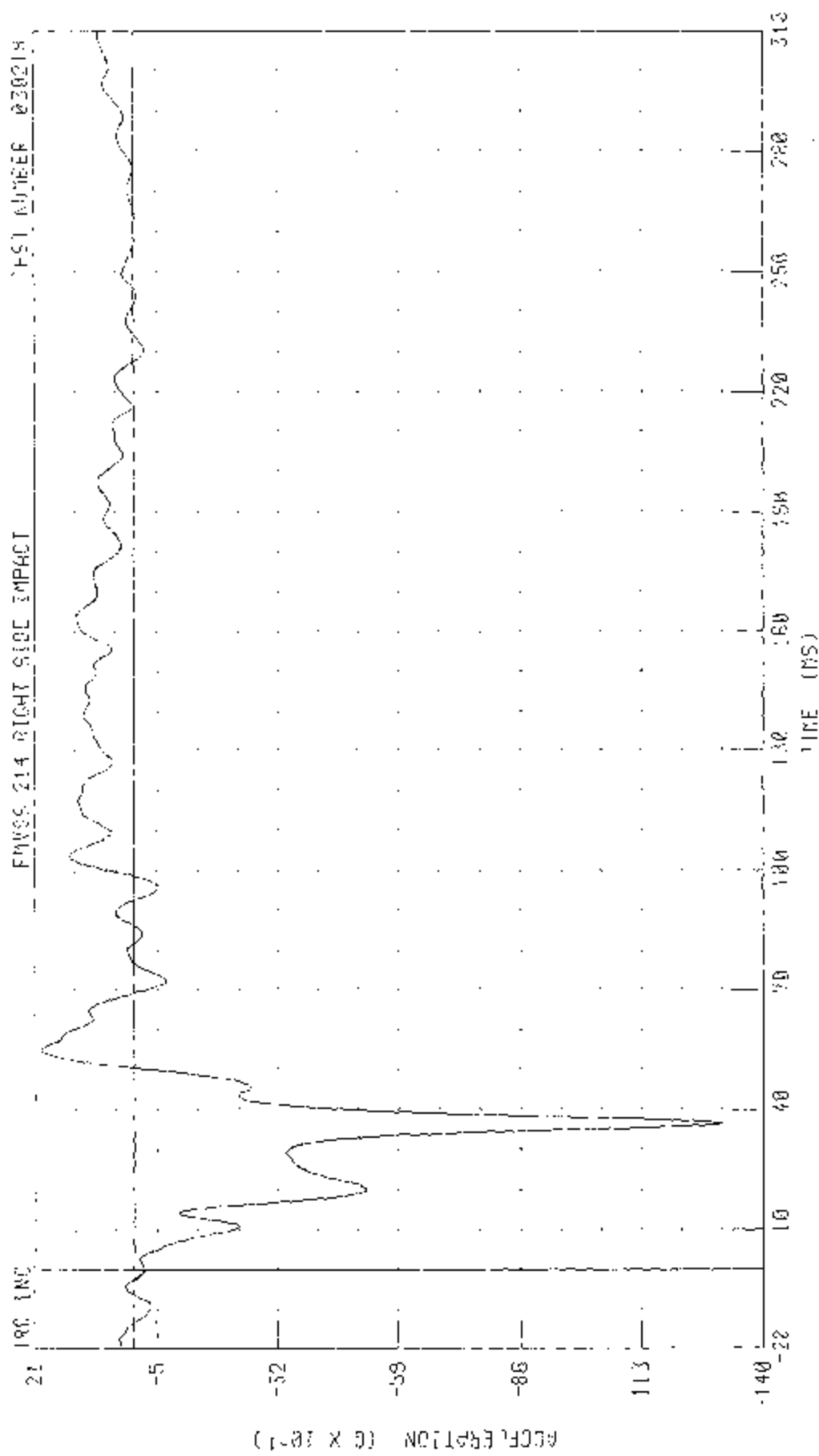
CHANNEL: RRRXV1 FILTER: CH CLASS 180

PEAK DATA 47.21 KM/H @ 56 MS, 17.21 KM/H @ 28.52 MS

48/24 200 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BAR) IN 0 KNOT SIDE OF 2003 SUBARU BA10

NICE RIGHT REAR Y-AXIS ACCELERATION

FMVSS 214 RIGHT SIDE IMPACT P51 ADJREF 030218



CHANNEL: RRYG: FILTER: CH: CLASS: 60

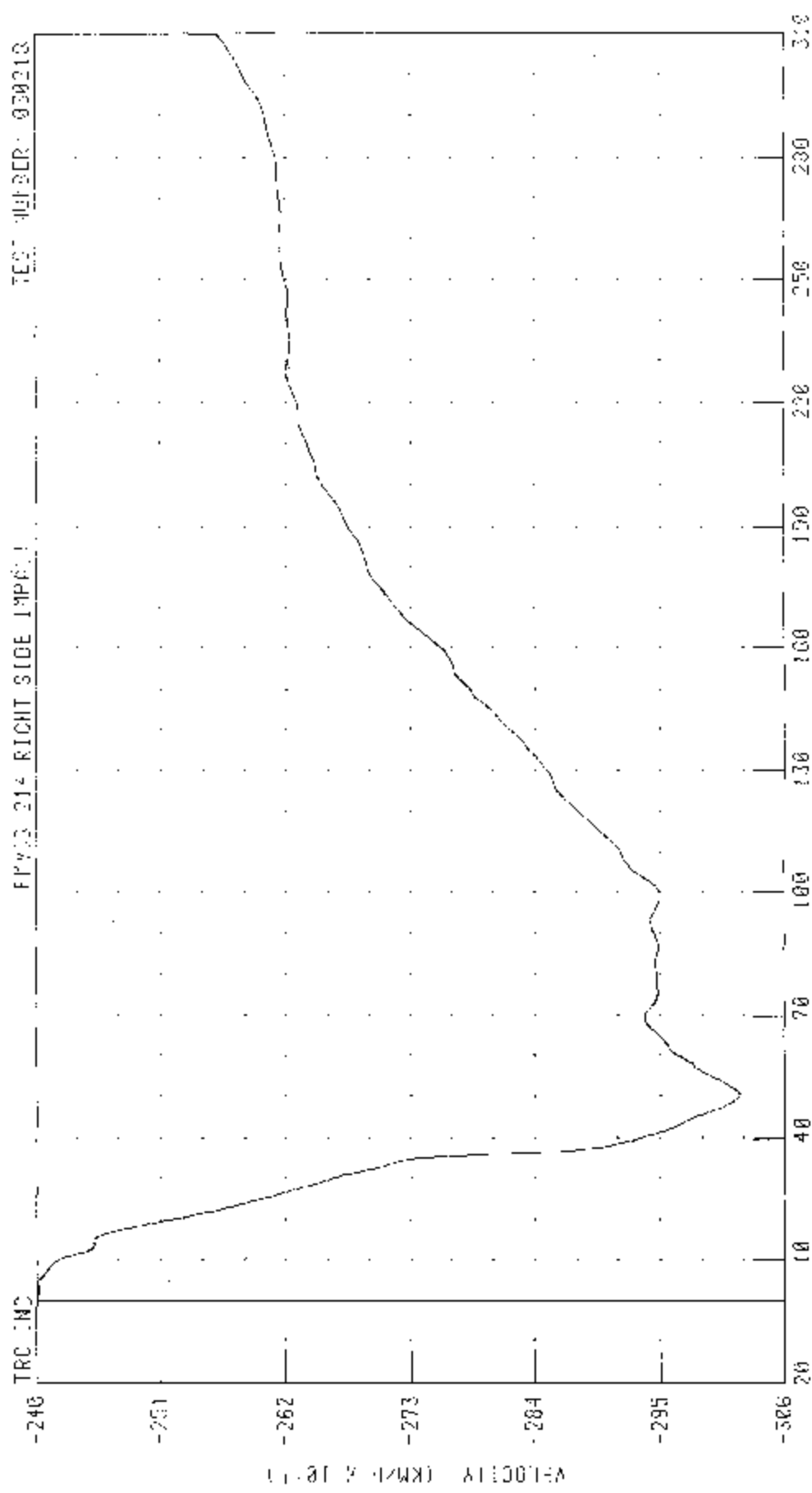
PEAK DATA: 2 05 0 54 96 MS, -13 09 0 36 40 75

40/24 KPH 90 DEGREE SIDE IMPACT (MOVING OCCUPANT) GARNIER 1400 RIGHT SIDE U- 2642 50430 80JA

NEG RIGHT REAR Y AXIS VELOCITY

FRONT 214 RIGHT SIDE IMPACT

TEST NUMBER 030218



TIME (MS)

PEAK 2650 -24 02 K1/H @ 0 20 FS; -30 70 K1/H @ 50 48 FS

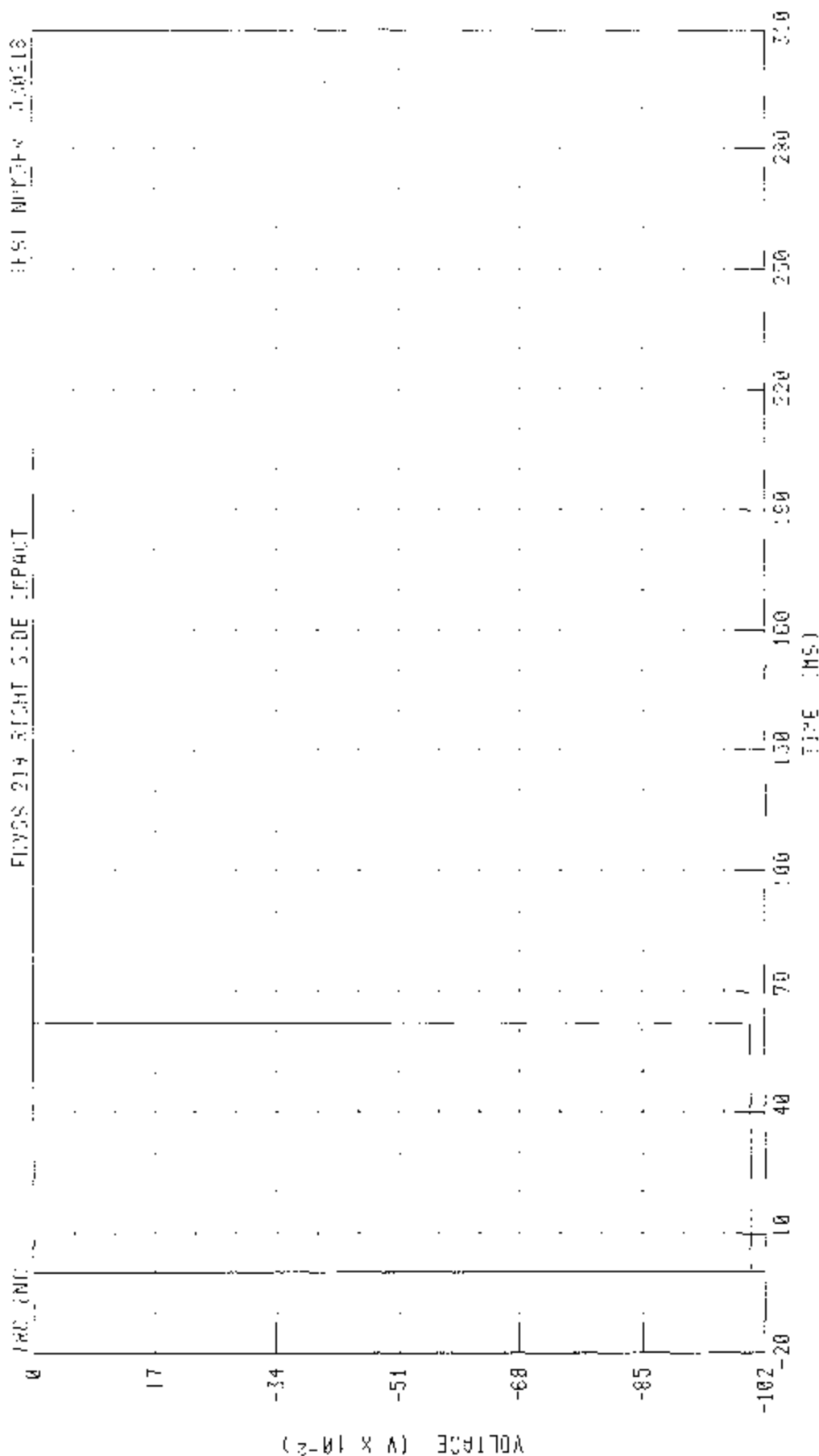
CHANNEL RRRYV1 FILTER CH CLASS 130

48/24 KTH 90 DEGREE SIDE VIEW MOVING DIFFERABLE BARRIER INTO RIGHT SIDE OF LOW CUPERT 100

FOR RIGHT SIDE CONTACT 54. CH

FLYDS 214 RIGHT SIDE IMPACT

TEST NUMBER 000018



PEAK DATA 0 00 V 0 310 00 MS, -1 00 V 0 0 00 MS

FILTER: CH. CLASS 1000

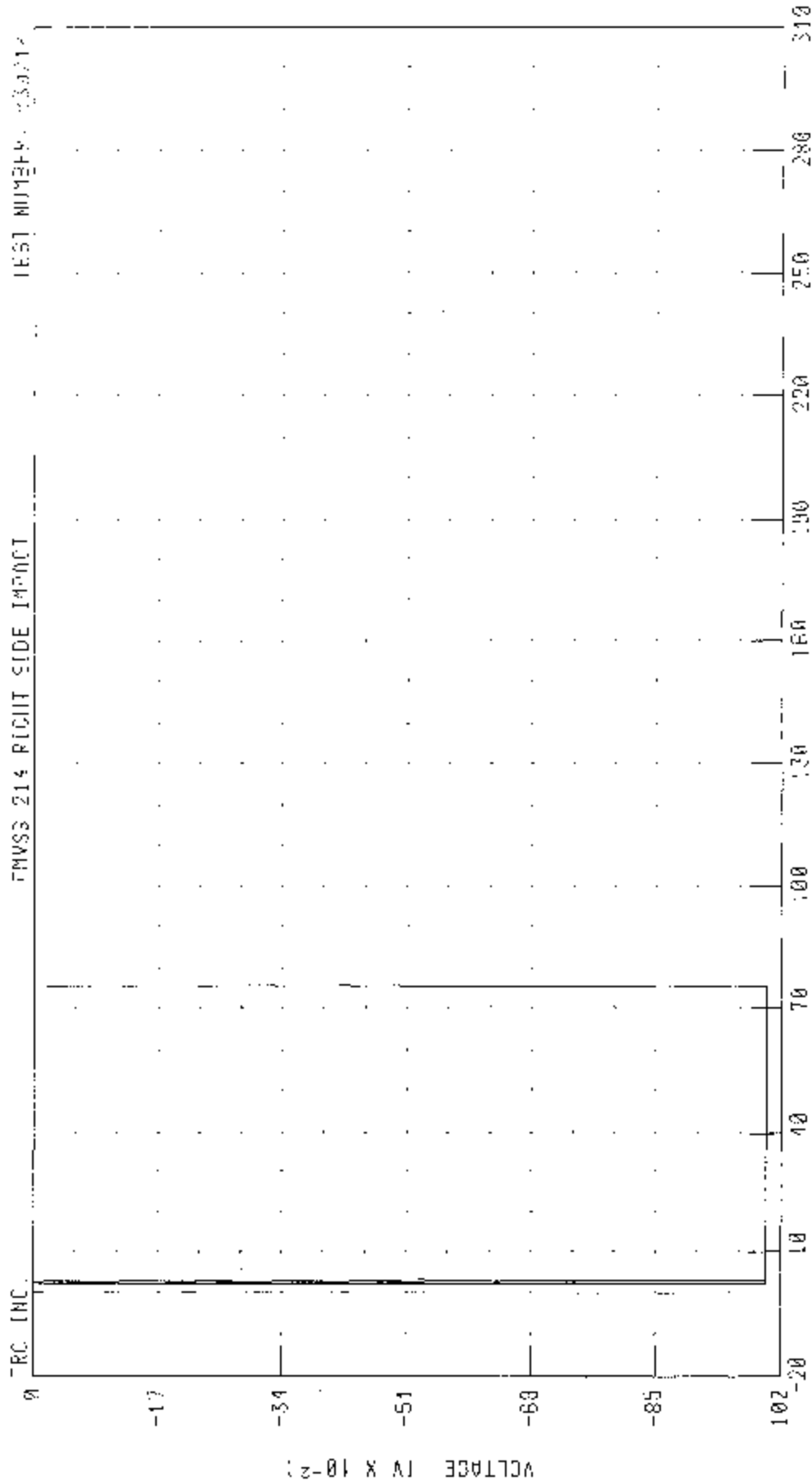
CHANNEL: MDR1

43274 FRI 50 DEGREE SIDE IMPACT MOVING DETECTOR BELT BARRELS INTO RIGHT SIDE OF 1203 SUPERU CAR.

100 LEFT SIDE CONTACT SWITCH

FMVSS 214 RIGHT SIDE IMPACT

TEST NUMBER: 030712



CHANNEL 00BL1 FILTER: CH. CLASS 1040

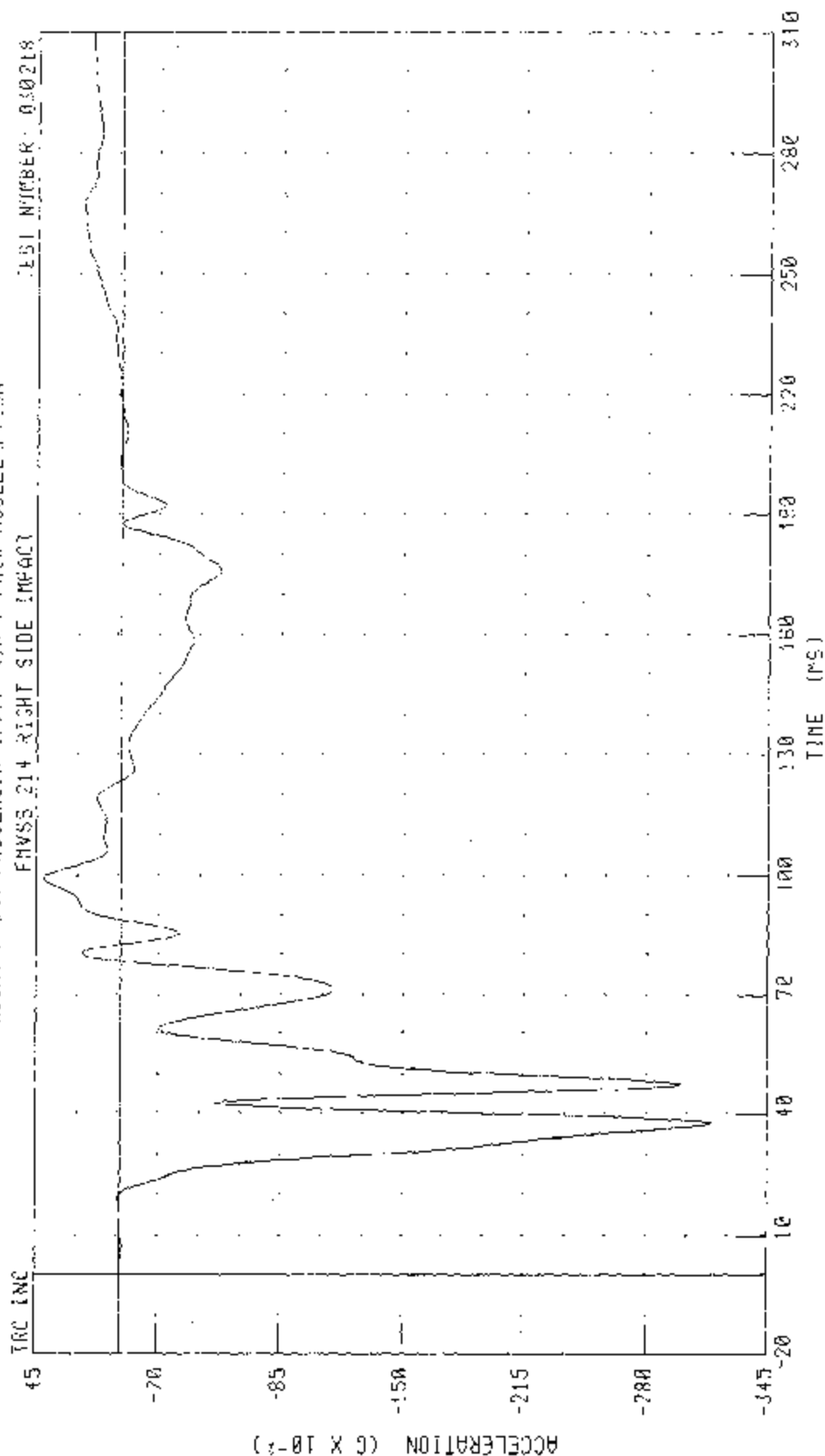
PEAK DATA: 0 00.0 3 312 00 MS, -1 00 V 0 2 32 75

Right Front Passenger and Right Rear Passenger Dummy Instrumentation Plots
Acceleration Data - FIR Filtered

48/24 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO RIGHT SIDE OF 2093 SUBURB DC DA

RIGHT FRONT PASSENGER SEAT AIR Y-AXIS ACCELERATION

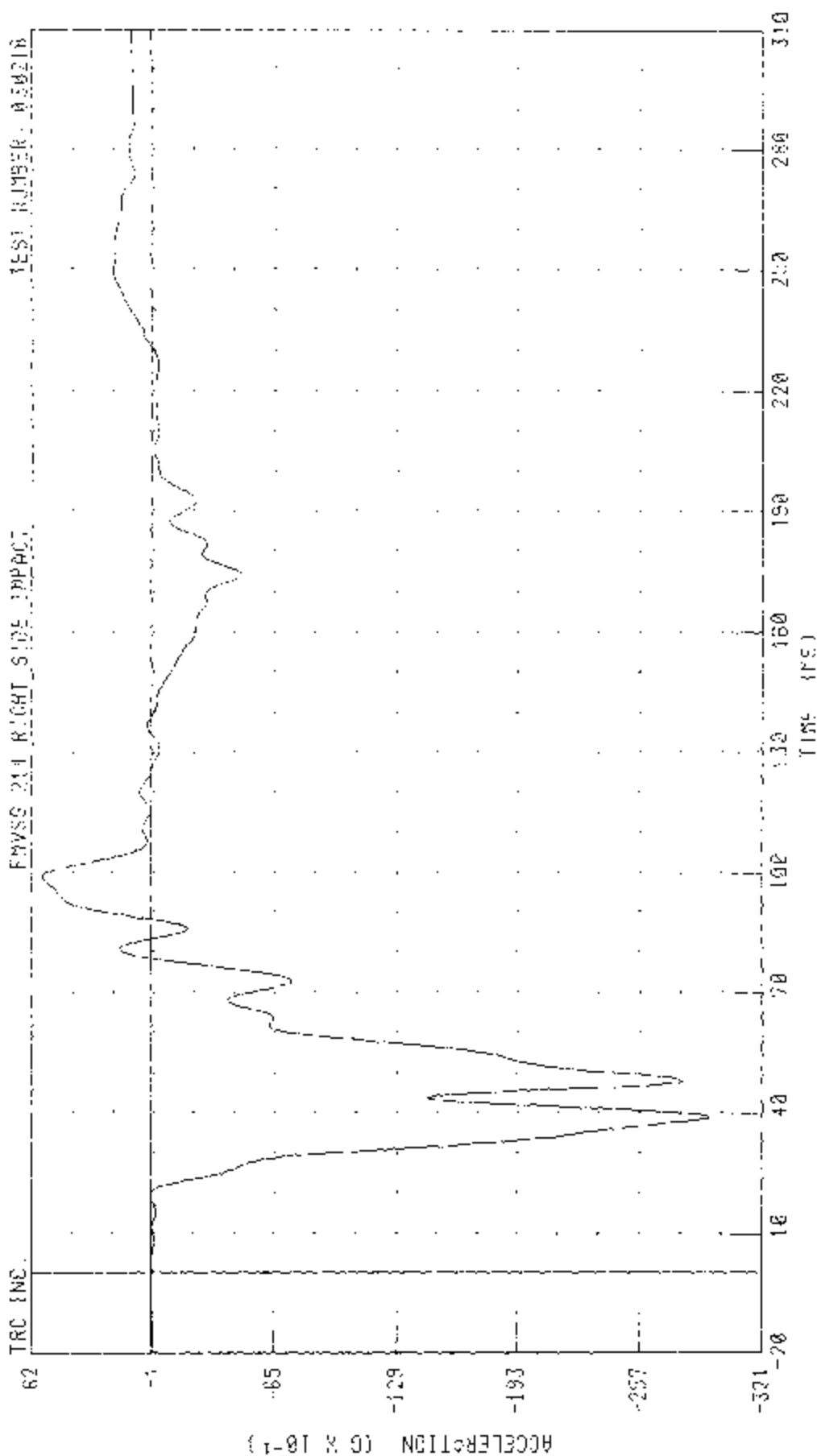
FMVSS 214 RIGHT SIDE IMPACT TEST NUMBER: 030218



CHANNEL RURY62 FILTER: FIR 100

PEAK DATA = 10 C @ 99.37 MS; -31.48 G @ 37.50 MS

48/24 KP4 30 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARREL) WITH RATCH KIDDE OF 2802 SURFWD RA F
 RIGHT FRONT PASSENGER LOWER RIB X-AXIS ACC. FREQU.



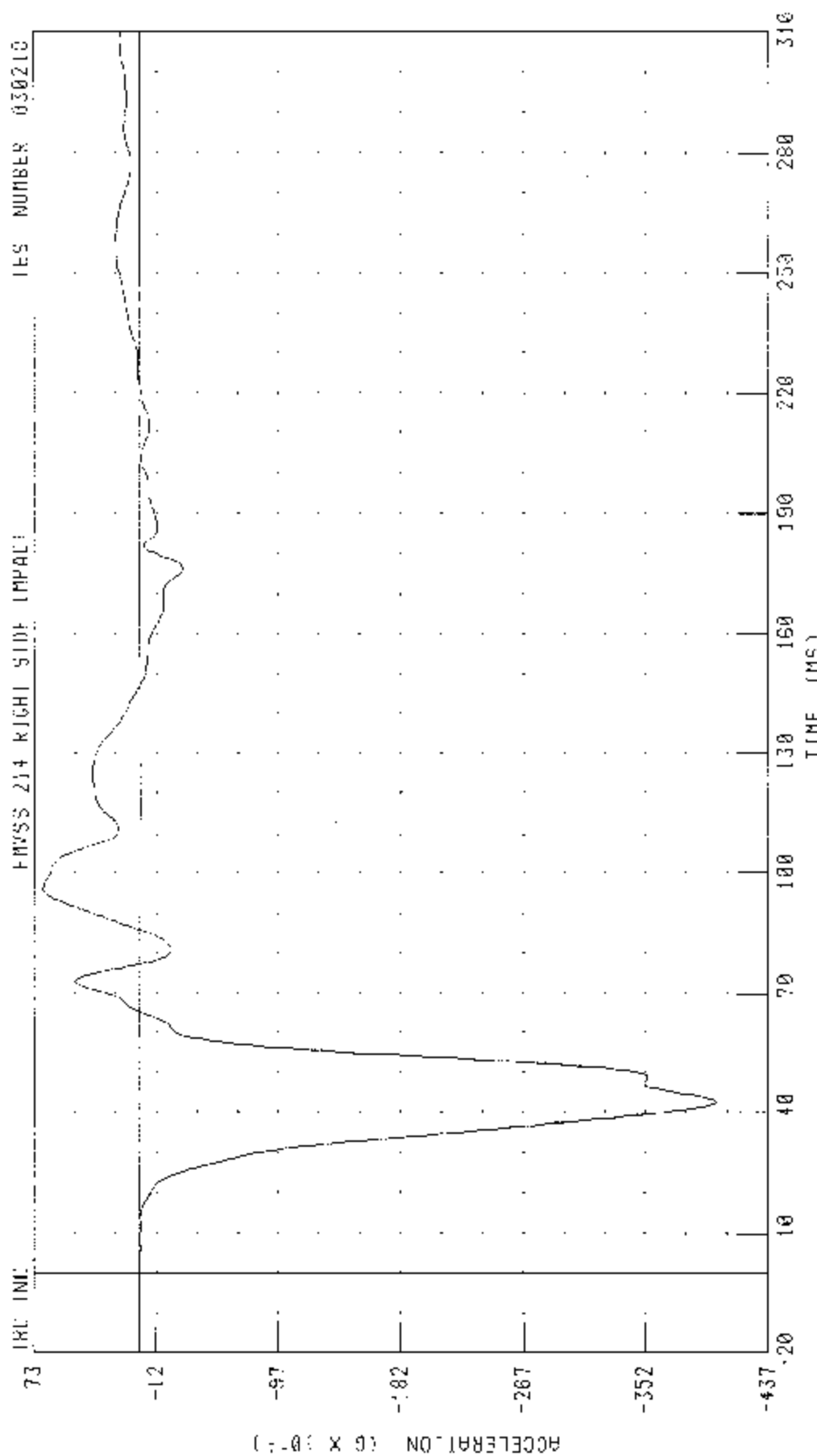
CHANNEL RLRYG2 FILTER FIR 108

PHYS DATA 5 75 0 6 08 75 MS, 29 38 5 9 13.75 MS

48/24 4P4 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO RIGHT SIDE OF 2003 SUBARU SAJA

RIGHT FRONT PASSENGER LOWER SPINE Y-AXIS ACCELERATION

IRV INC. FMVSS 214 RIGHT SIDE IMPACT IES NUMBER 030210



CHANNEL: T12YC2 FILTER: FIR 100

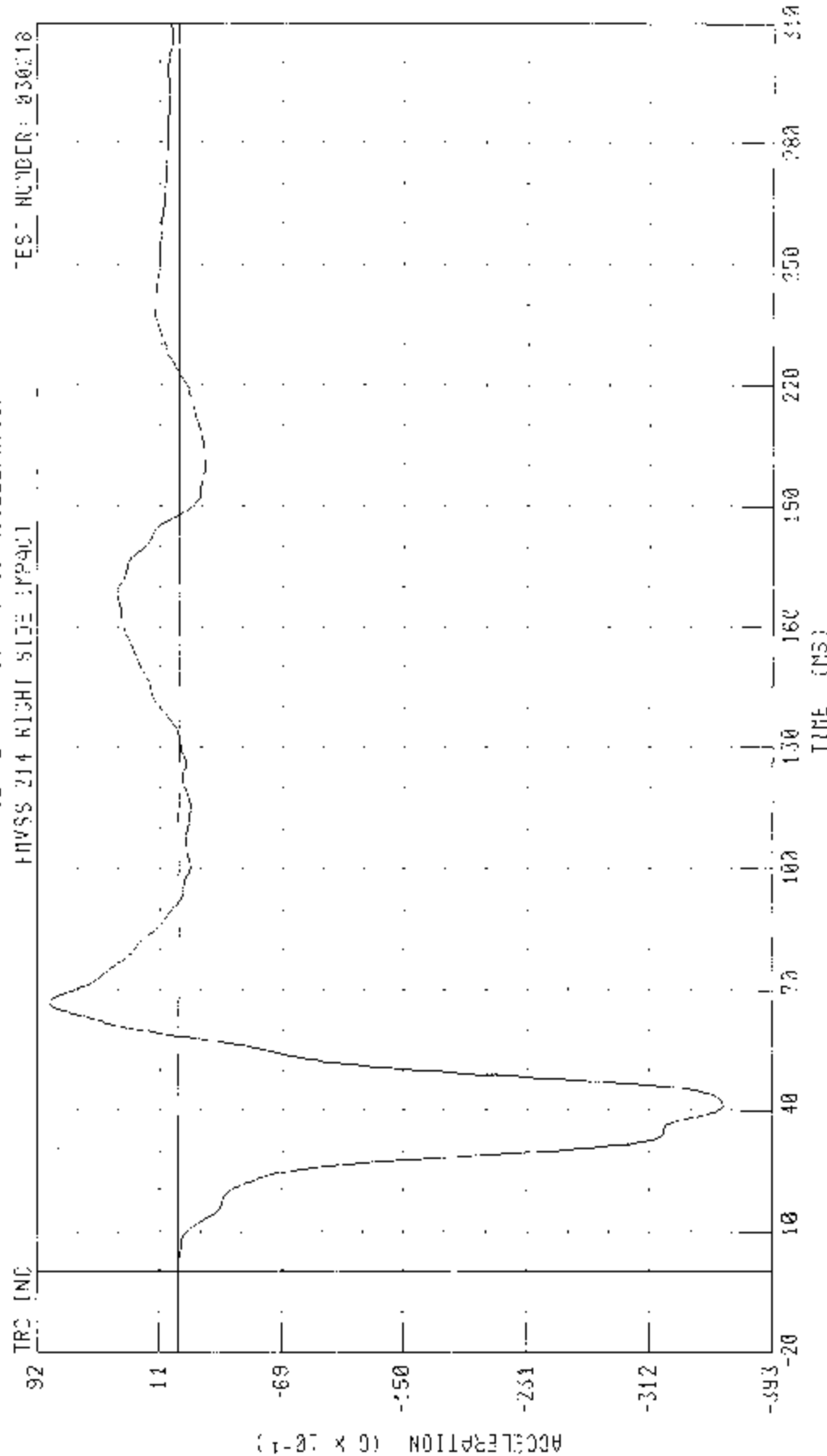
PEAK DATA 8.65 C @ 96.25 MS; -42.16 G @ 42.50 MS

48/24 MPH 30 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARREL) INTO RUC SIDE OF 2005 SUBBU JAL4

RIGHT FRONT PASSENGER PEVVS X AXIS ACCELERATION

TEST NUMBER: 830218

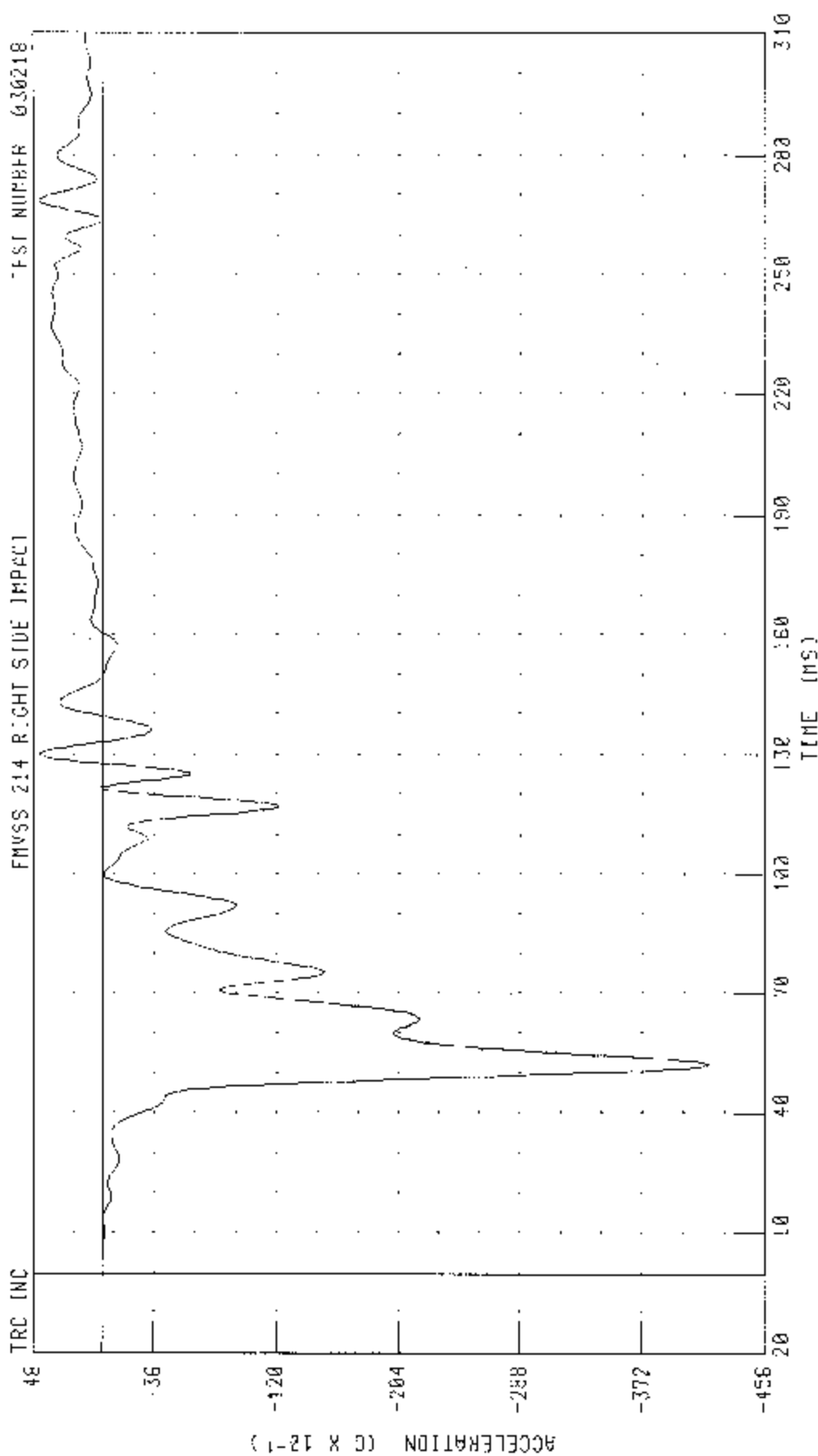
HMSS 214 RIGHT SIDE IMPACT



PEAK DATA: 9.49 3 0 67 52 MS; -36 07 0 0 4: 25 MS

CHANNEL: PEVVG2 FILTER: FTR 100

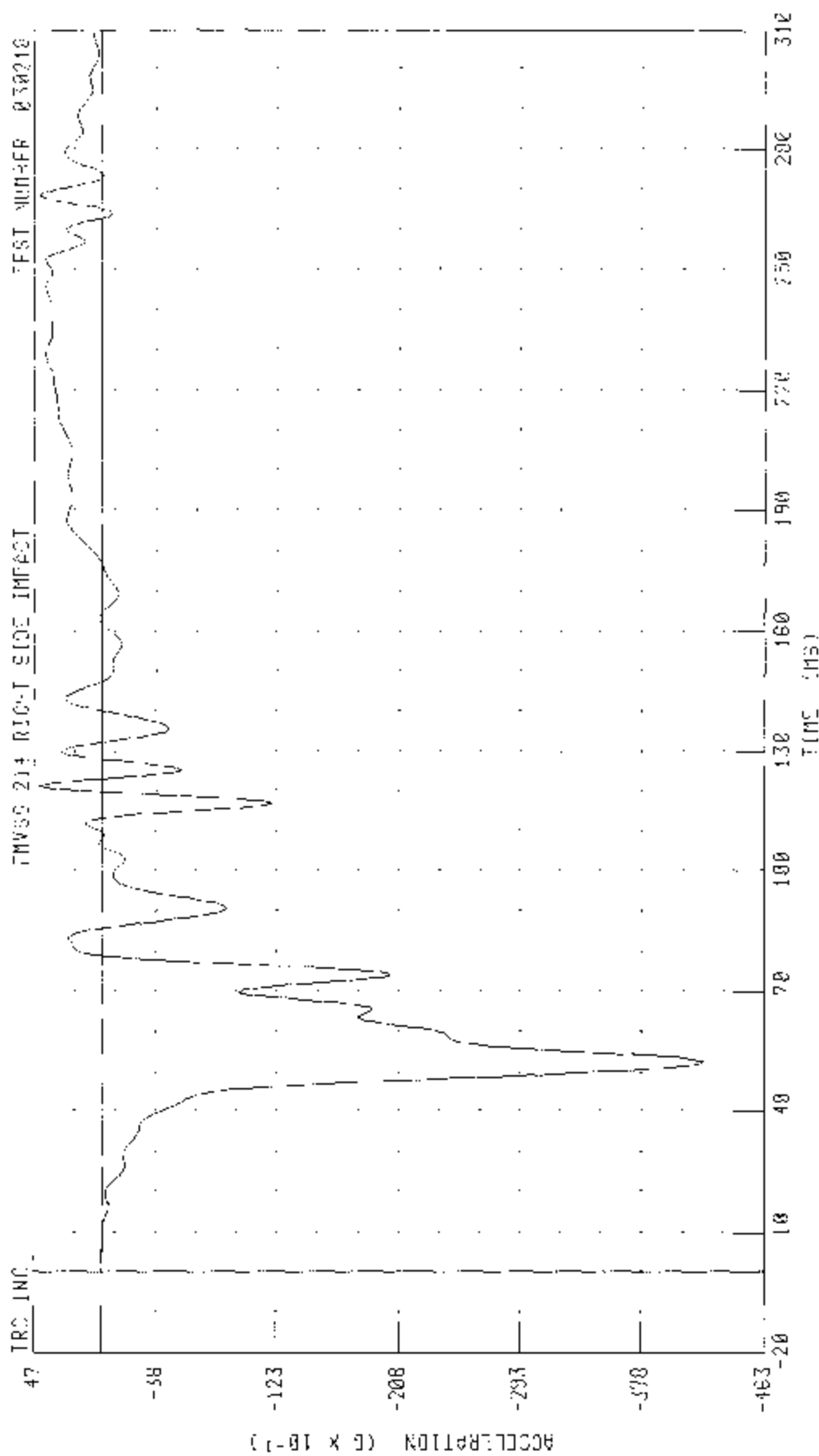
43/24 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO RIGHT SIDE OF 2003 SUBARU 3AJ4
 RIGHT REAR PASSENGER UPPER RIB V-DOTS ACCELERATION



CHANNEL RURY03 FILTER FTR 100

PEAK DATA 442.00 238.75 MS, 41.75 G @ 32.50 MS

48/24 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO RIGHT SIDE OF 2003 SLOARJ ERJA
 RIGHT REAR PASSENGER LOWER RIB Y-AXIS ACCELERATION



CHANNEL: KRYG3 FILTER: FIR 100

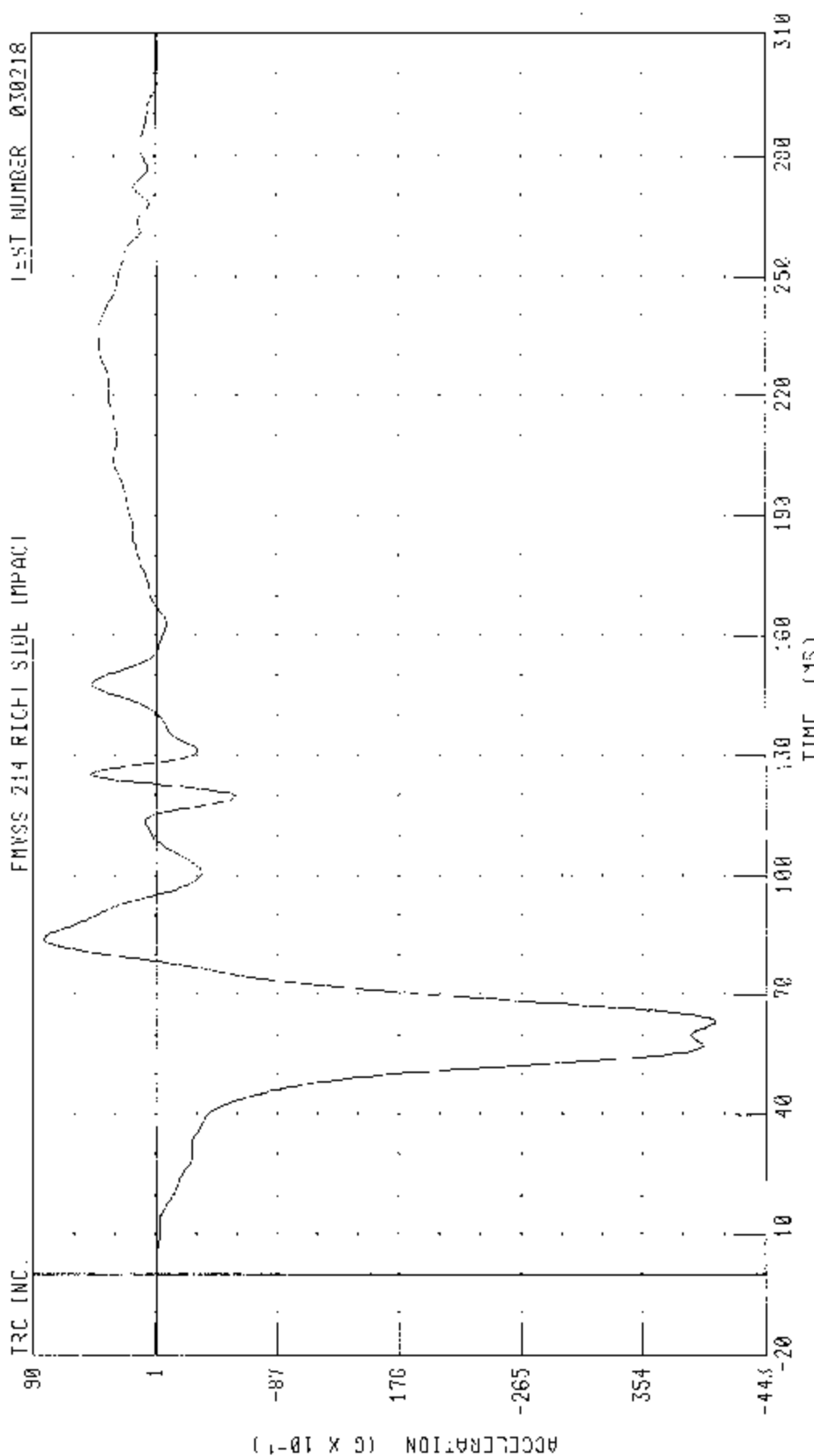
PEAK DATA: 4.55 G @ 121.25 MS; -42.09 G @ 32.50 MS

48/24 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO RIGHT SIDE OF 2003 SUBARU BAJA

RIGHT REAR PASSENGER LOWER SPINE Y-AXIS ACCELERATION

FMVSS 214 RIGHT SIDE IMPACT

TEST NUMBER 030218

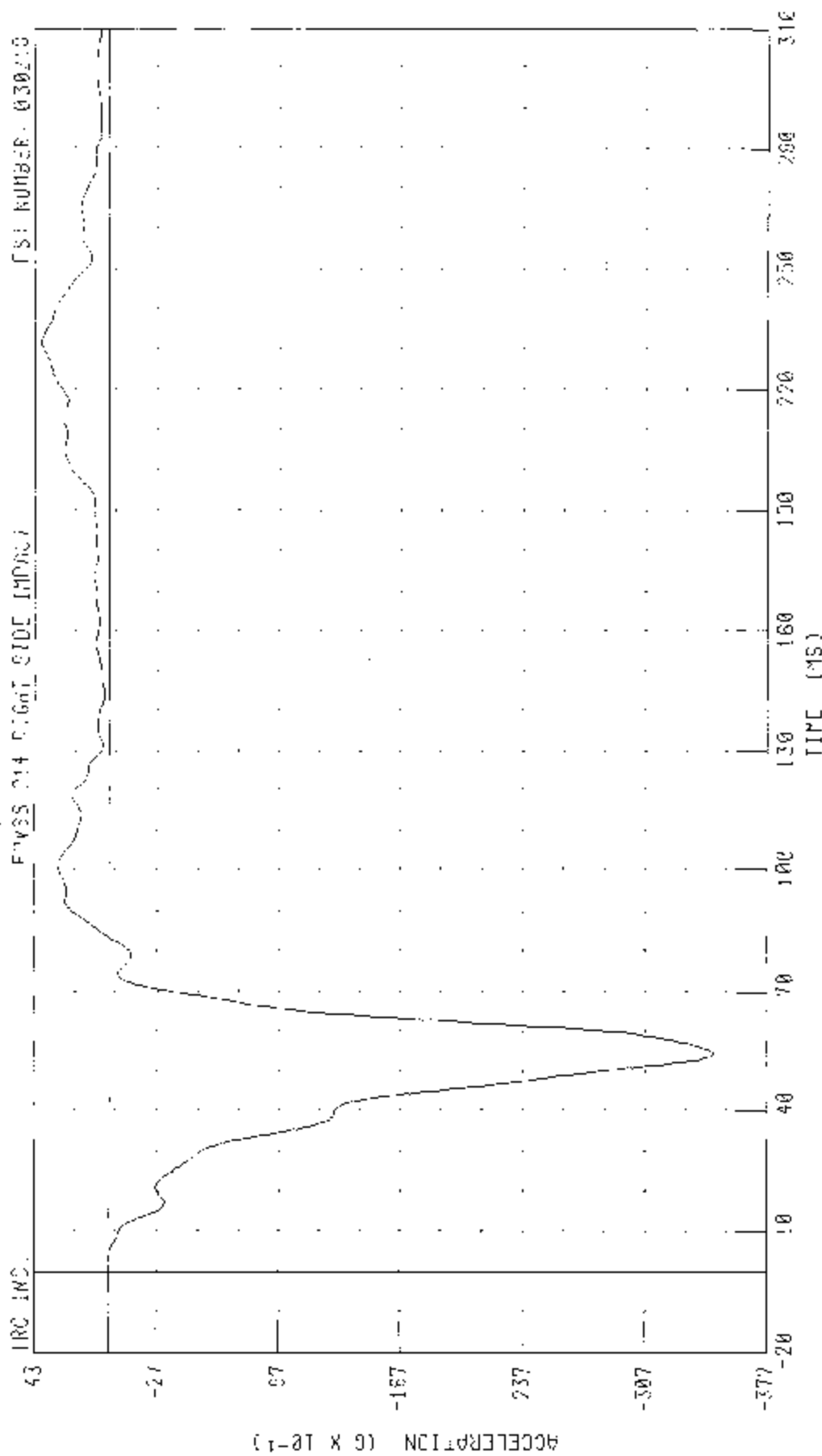


CHANNEL: 112Y03 FILTER: FIR 100

PEAK DATA: 8.21 3 0 83 75 75, -40 77 0 0 63 13 MS

48/24 MPH 90 DEGREE SIDE IMPACT MOVING DEFORMABLE BARRIER INTO RIGHT SIDE OF 2003 SUBARU DATA

RIGHT REAR PASSENGER SEAT Y-AXIS ACCELERATION



CHANNEL: 0FVY03 FILTER: HZ 100

PEAK DATA: 3.91 G @ 251.87 MS; -34.00 G @ 54.30 MS

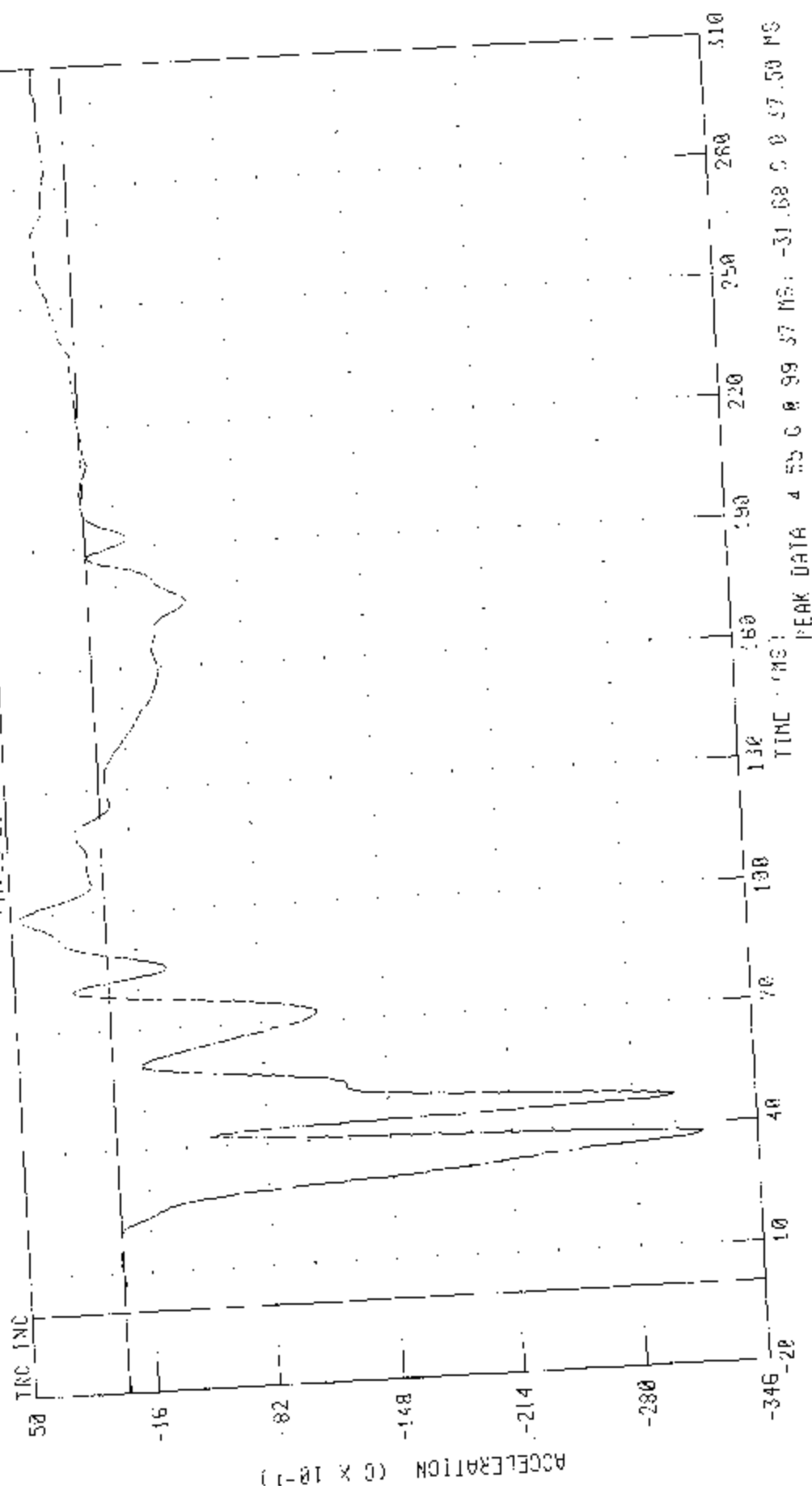
Right Front Passenger and Right Rear Passenger Dummy Instrumentation Plots
Acceleration Data - FIR Filtered - Redundant

48/24 KPI, 30 D-DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO RIGHT SIDE OF 2003 SUBARU B2.0A

RIGHT FRONT PASSENGER UPPER RIB 2-AXIS RECURRENT ACCELERATION

TEST NUMBER 200218

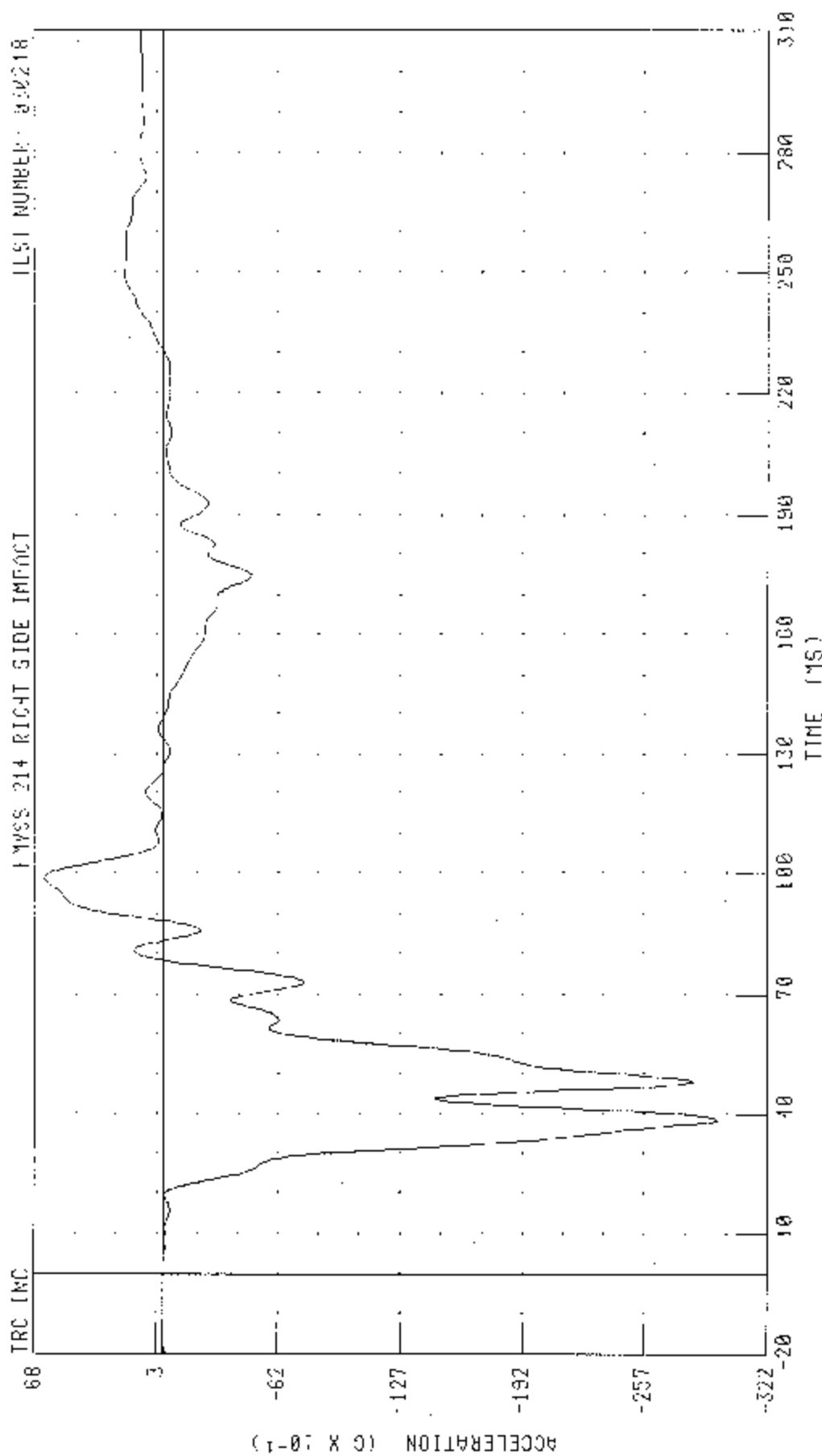
ENVSS 214 RIGHT SIDE IMPACT



CHANNEL: RURYR2 FILTER: FIR 100

43/24 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) (L10) RIGHT SIDE OF 2003 SUBARU BAJA

RIGHT FRONT PASSENGER LOWER RIB Y-AXIS REDUJACANT ACCELERATION



CHANNEL: RLRYR2 FILTER: FTR 100

PEAK DATA: 0 25 G @ 98.75 MS, -29.54 G @ 38.75 MS

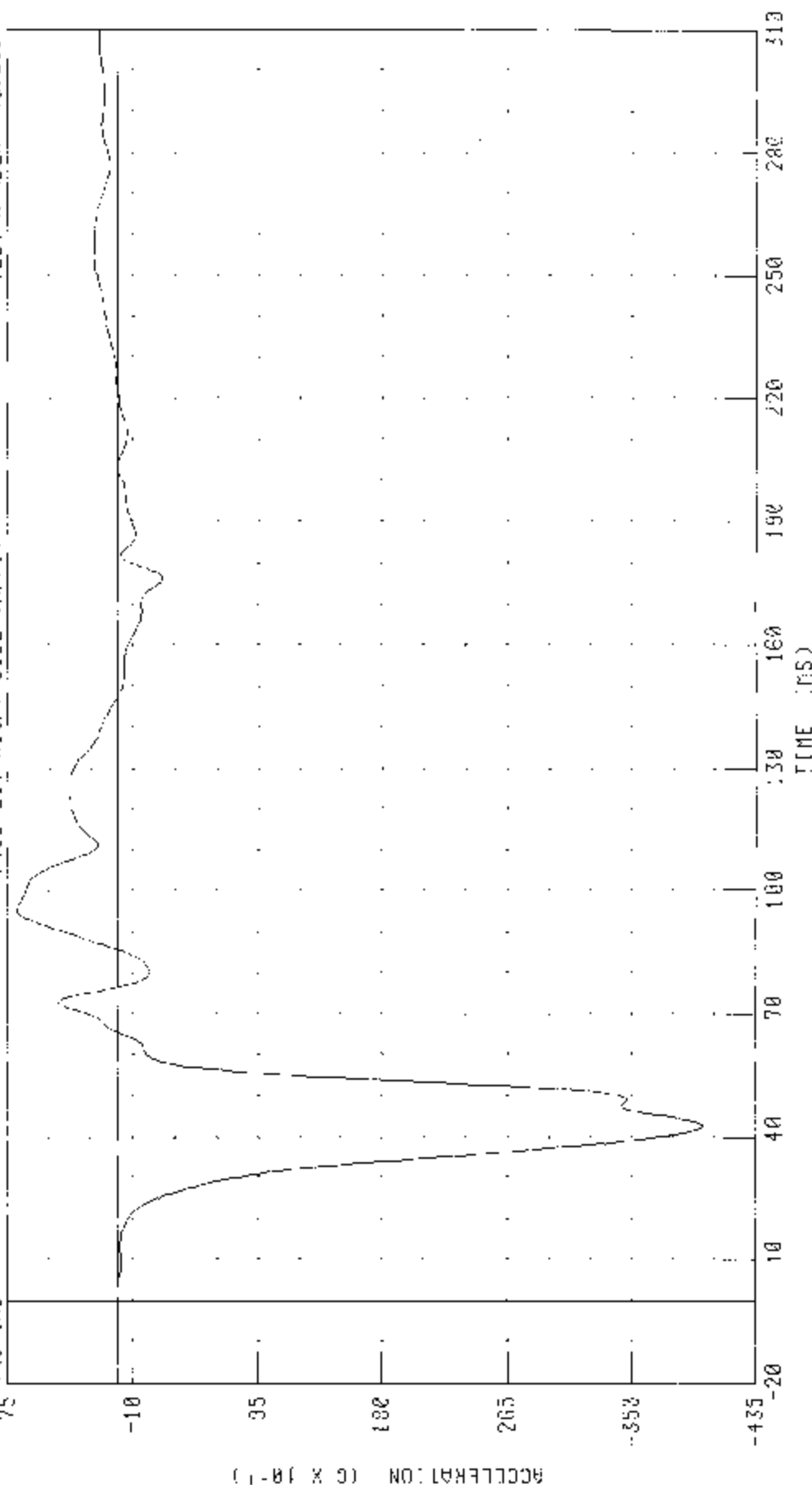
48/24 KPI 90 DEGREE SIDE IMPACT (MOVING DEFORMLABLE BARRIER) INTO RIGHT SIDE OF 2003 SUBARU 5HJ0

RIGHT FRONT PASSENGER LOWER SPINE Y AXIS REBOUND/ACCELERATION

180 LNC

FIXSS 214 RIGHT SIDE IMPACT

TEST NUMBER 03W218



CHANNEL: 112Y82 FILTER: FIR 100

TIME (MS)

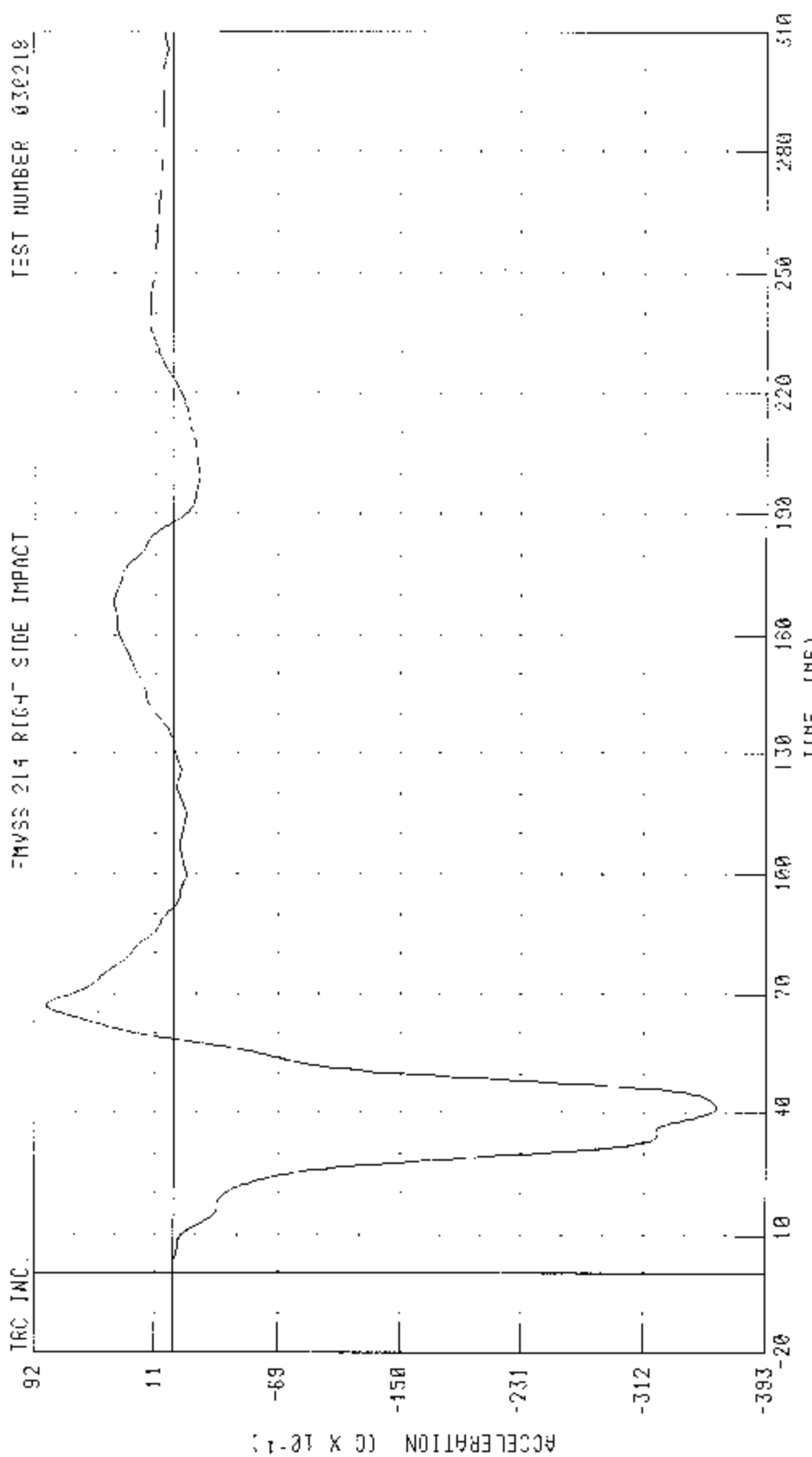
PEAK DATA: 5.87 G @ 96.20 MS; -38.82 G @ 12.50 MS

48/24 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARrier) INTO RIGHT SIDE OF 2003 SLEARs DATA

RIGHT FRONT PASSENGER PE_V13 Y-AXIS REMAINING ACCELERATION

FMVSS 214 RIGHT SIDE IMPACT

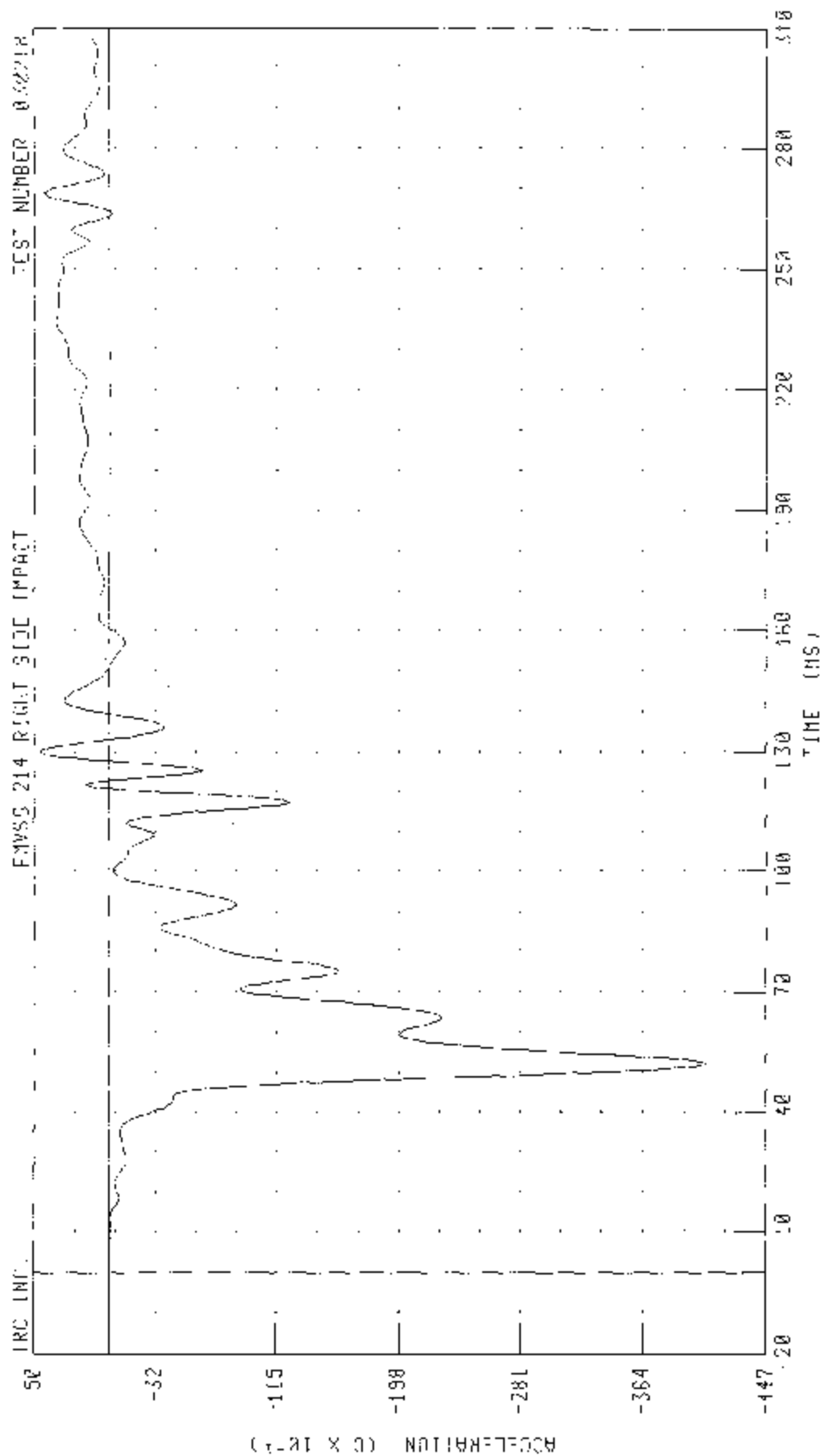
TEST NUMBER 030218



CHANNEL PEVYR2 FILTER: FIR 100

19/24 KPH 9V CHGRFT SIDE IMPACT INVOLVING DEPENDABLE RANGELER) INFO RIGHT SIDE OF 700'S SUBORD RANG

RIGHT REAR PASSENGER UPPER RIB Y-AXIS REDUNDANT ACCELERATION



PEAK DATA: 4.05 G @ 130.00 MS, -12.68 G @ 52.50 MS

CHANNEL: RUSYR3 FILTER: FIR 120

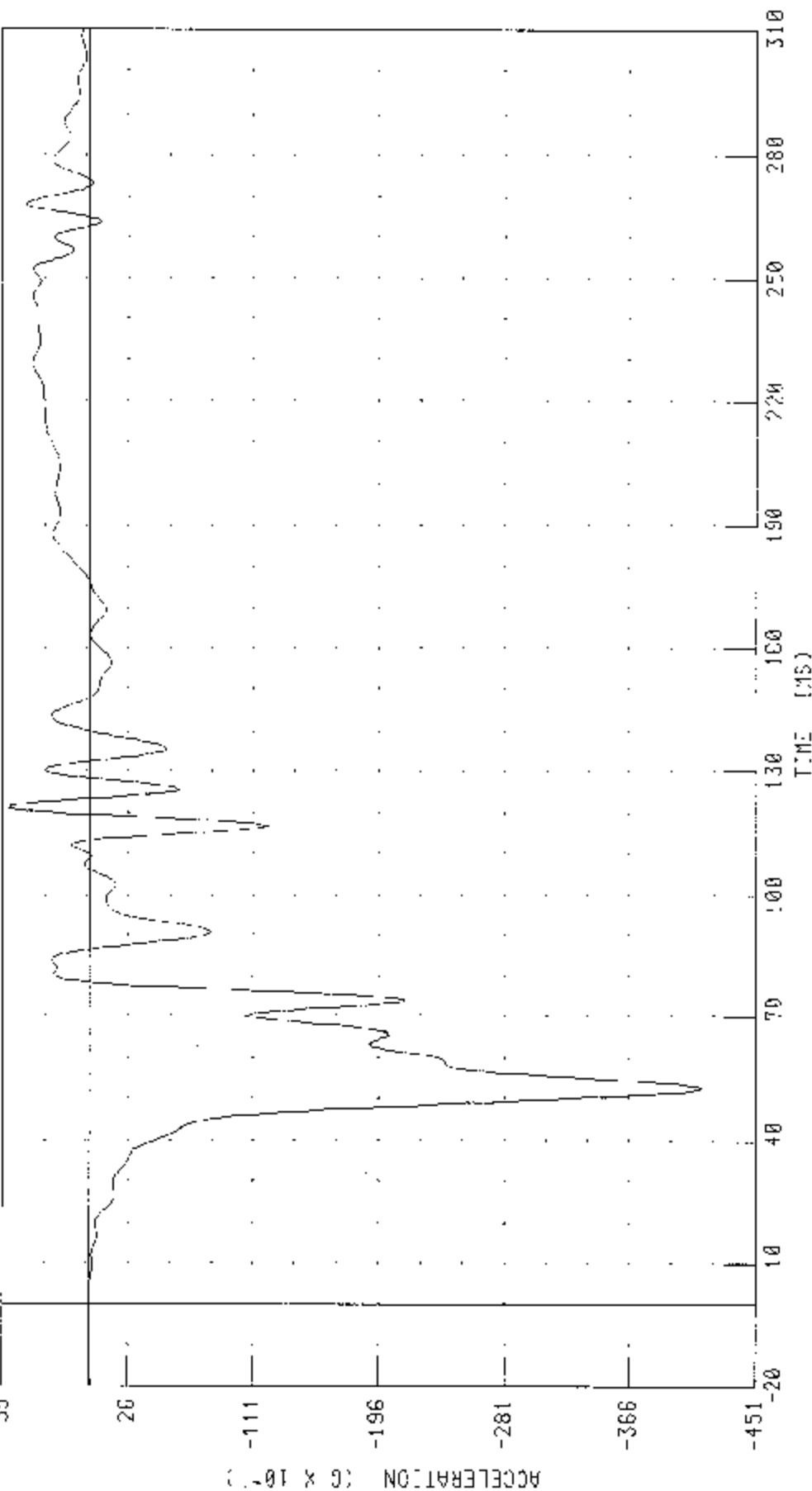
48/24 KP4 90 DEGREE SIDE IMPACT INVOLVING DEFORMLABLE BARRIER INTO RIGHT SIDE OF 2003 SUBARU BAJA

RIGHT REAR PASSENGER LOWER RIB Y-AXIS REDUNDANT ACCELERATION

TRC INC.

FMYSS 214 RIGHT SIDE IMPACT

TEST NUMBER 030218

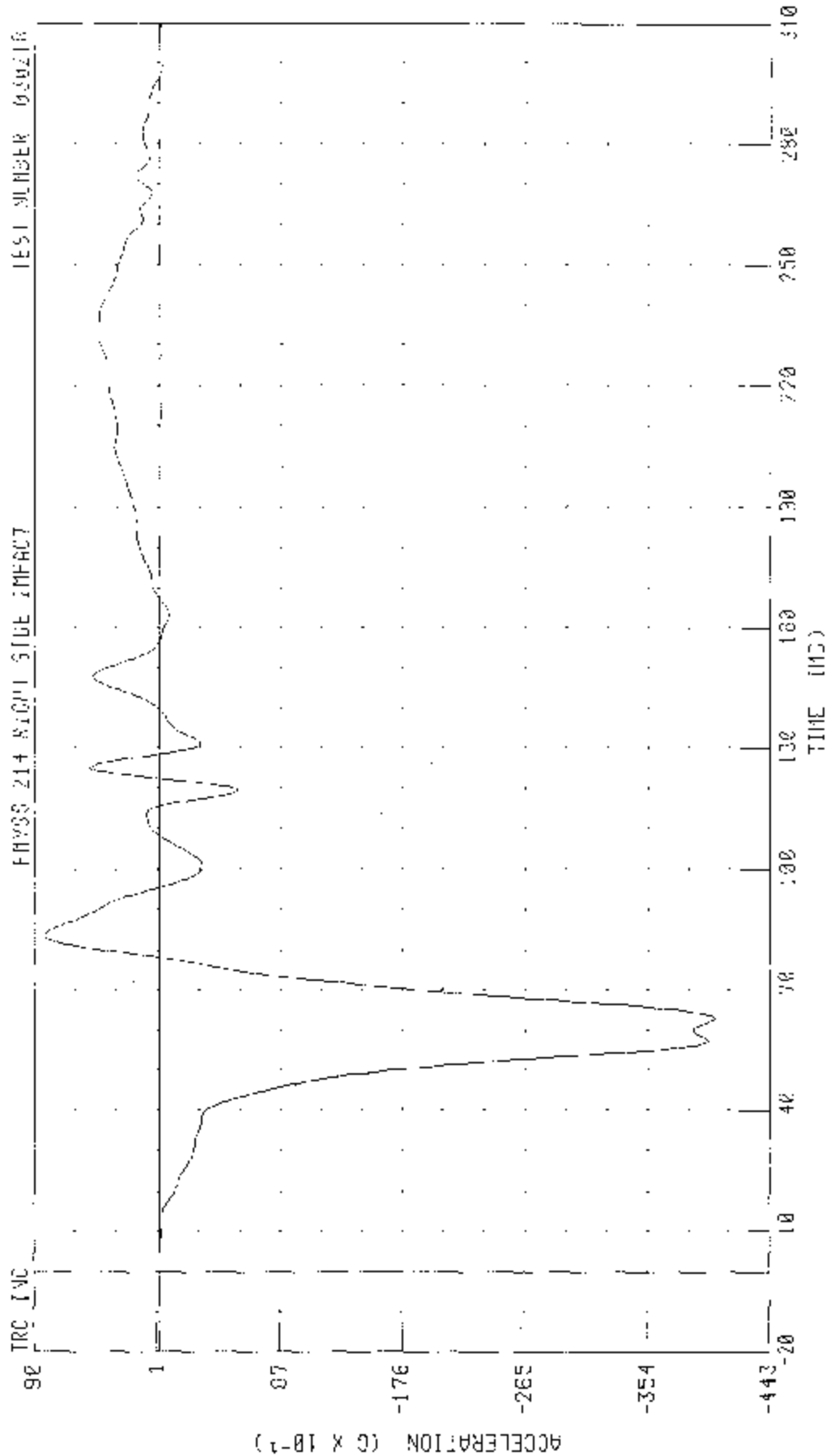


CHANNEL: RLRVR3 FILTER: FIR 100

PEAK DATA: 5.41 G @ 121.25 MS, -41.49 G @ 32.50 MS

48/24 MPH 30 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO RIGHT SIDE OF 2003 SUSPV DATA

RIGHT REAR PASSENGER LOWER SPINE X AXIS REDUNDANT ACCELERATION



CHANNEL: T12YR3 FILTER: FIR 120

PEAK DATA: 8.26 G @ 83.75 MS; -40.35 G @ 03.13 MS

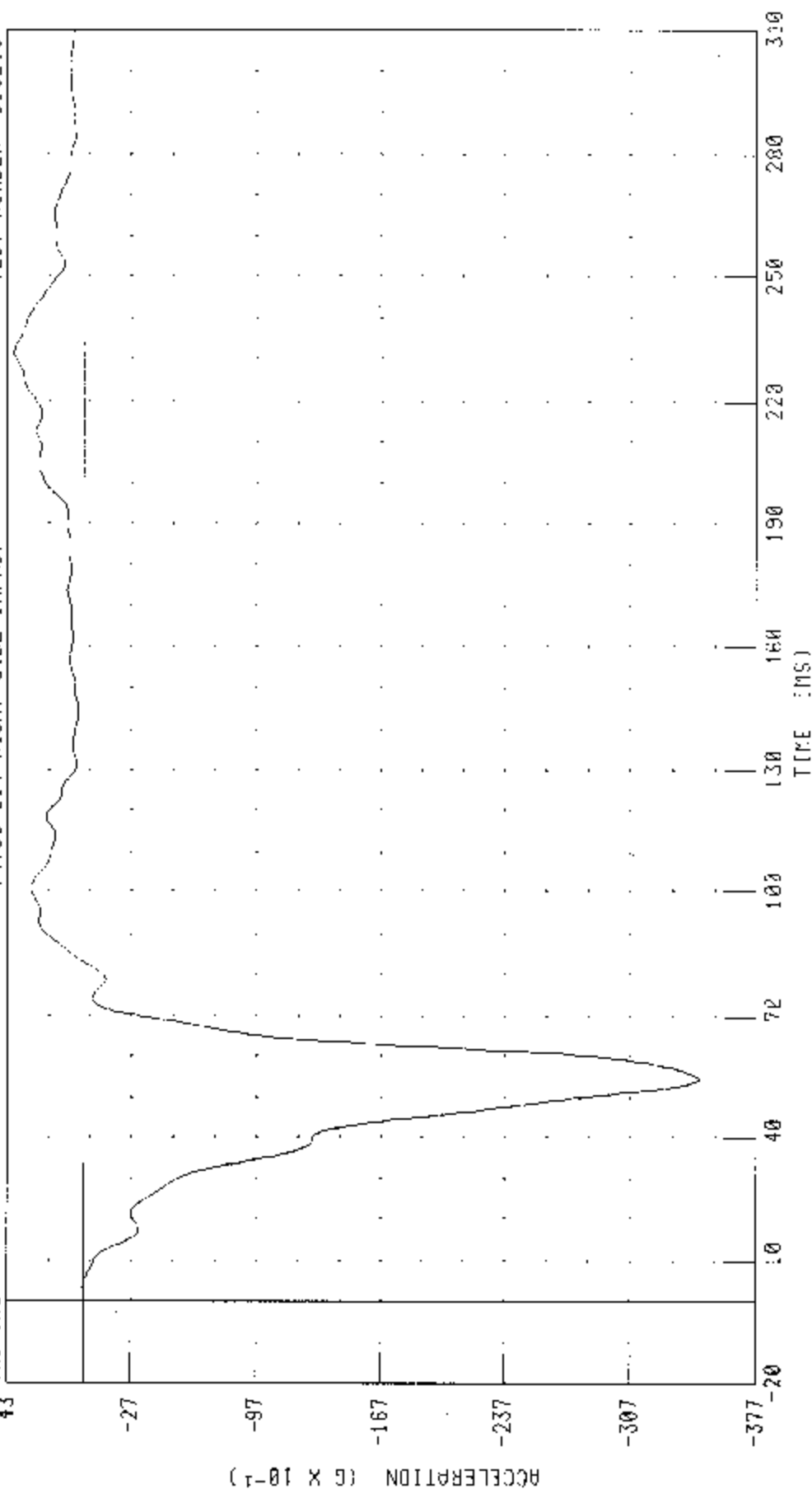
48/24 KPH 30 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO RIGHT SIDE OF 2003 SUBARU UAJA

RIGHT REAR PASSENGER PELVIS Y-AXIS REDUNDANT ACCELERATION

TRC INC

FMVSS 214 RIGHT SIDE IMPACT

TEST NUMBER: 030218



CHANNEL PEVYR3 FILTER: FIR 100

PEAK DATA: 3.95 G @ 231.87 MS, 34.50 G @ 54.58 MS

Appendix C

SID Configuration and Performance Verification Data

Summary
SID Pre-Test and Post-Test Calibration
Configured For Right Side Impact

Date: Feb. 14 - March 3, 2003 TRC Inc. Test Number: 065Cal 03/04 & 066Cal 03/04

Laboratory Technician: Jack Willeke

Test Parameter	Specification	SID-066		SID 065	
		Pre-Test	Post-Test	Pre-Test	Post-Test
SH - seated height (mm)	889-909	893	895	893	892
RH - Rib Height (mm)	502-520	510	511	510	511
HP - Hip Pivot Height (mm) ¹	99 ref	---	---	---	---
RD - Rib from Back Line (mm)	229-241	236	237	237	236
KH - Knee Pivot from Back Line (mm)	511-526	521	520	515	514
KV - Knee Pivot to Floor (mm)	490-505	499	499	499	501
HW - Hip Width (mm)	356-391	388	388	372	373
Thorax Impacts					
Temperature (°C)	18.9-25.5	21.1	21.7	21.7	21.7
Relative Humidity (%)	10-70	30	31	30	31
Probe Speed (m/s)	4.27-4.33	4.28	4.28	4.28	4.28
Upper Rib (g's)	37-46	39.7	41.1	39.1	40.7
Lower Rib (g's)	37-46	38.4	39.5	37.9	38.5
Lower Spine (g's)	15-22	18.5	19.5	18.2	19.2
Pelvis Impacts					
Temperature (°C)	18.9-25.5	21.7	21.7	21.7	21.7
Relative Humidity (%)	10-70	30	30	30	31
Probe Speed (m/s)	4.27-4.33	4.28	4.28	4.28	4.28
Pelvis (g's)	40-60	43.8	40.1	45.7	45.1

¹ Measurement was not recorded.

Calibration Test Results

Pre-Test

SID: 066

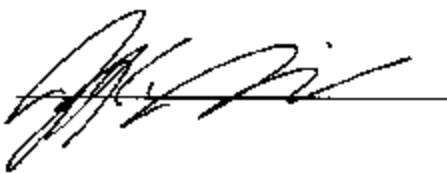
Configured for Right Side Impact

External Dimensions:	The dummy passed all external dimension requirements.
Lateral Thorax Impact Test:	The lateral thorax passed all impact test requirements.
Thoracic Shock Absorber Test:	The thoracic shock absorber passed all test requirements (tested on February 3, 2003 for a previous calibration series).
Lumbar Flexion Test:	The dummy met the lumbar flexion test requirements.
Abdominal Compression Test:	The abdomen met the compression test requirements.
Pelvis Impact Test:	The lateral pelvis passed all impact test requirements.

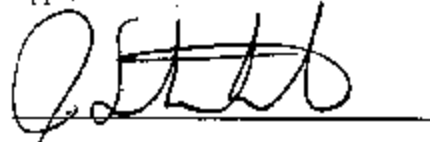
Transportation Research Center Inc.
572F SID Dummy
External Dimensions
Serial No. 066 Calibration No. 03

Test Parameter	Dimension	Specification	Results	Pass
Seated Height	SH	889.0 - 909.3 mm	896 mm	Yes
Knee Pivot From Backline	KH	510.5 - 525.8 mm	521 mm	Yes
Knee Pivot From Floor	KV	490.2 - 505.5 mm	498 mm	Yes
Hip Width	HW	355.6 - 391.2 mm	388 mm	Yes
Rib Height	RH	501.7 - 520.7 mm	510 mm	Yes
Rib From Backline	RD	228.6 - 241.3 mm	236 mm	Yes
Top Rib Width From CAL	RW-1	165.1 - 180.3 mm	175 mm	Yes
Bottom Rib Width From CAL	RW-2	165.1 - 180.3 mm	175 mm	Yes
Difference Between Top & Bottom Rib Width from CAL		<= 2.5 mm	0.0 mm	Yes

Technician



Approved



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TRANSPORTATION RESEARCH CENTER INC.

LATERAL THORAX IMPACT TEST

SIDE IMPACT DUMMY

14-FEB-03

RIGHT SIDE CONFIGURATION

TRC INC.

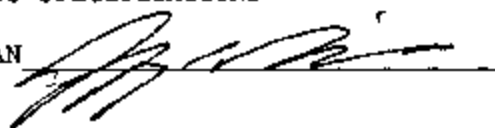
TEST NO: STR06603

572F SID SN066 R.THORAX CAL03

TEST PARAMETER	SPECIFICATION (ABSOLUTE VALUE)	TEST RESULTS
TEMPERATURE	18.9 - 25.5 C	21.1 DEG. C
RELATIVE HUMIDITY	10 - 70 %	30.0 %
PENDULUM VELOCITY	4.21 - 4.33 M/S	4.28 M/S
PEAK ACCELERATION: UPPER RIB BAR	37 - 46 G	-39.7 G
PEAK ACCELERATION: LOWER RIB BAR	37 - 46 G	-38.4 G
PEAK ACCELERATION: LOWER THORACIC SPINE	15 - 22 G	-18.5 G

TEST MEETS SPECIFICATIONS

TECHNICIAN



RUN NUMBER: 021403.1605;1

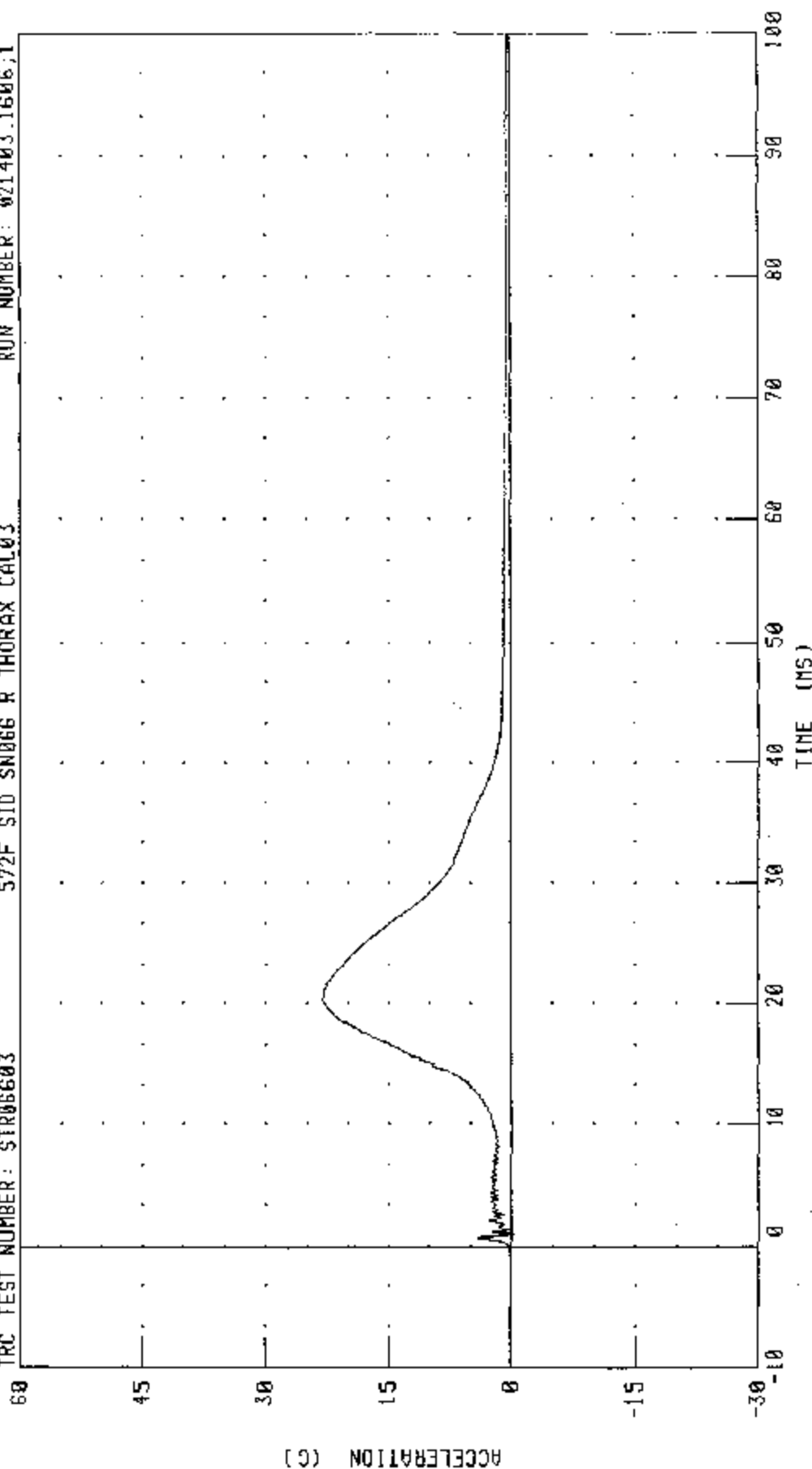
PART 572-F S.I.D. THORAX CALIBRATION - (RIGHT SIDE IMPACT)

PENDULUM DECELERATION

TRC TEST NUMBER: STR06603

572F SID SN066 R THORAX CAL03

RUN NUMBER: 021403.1606;1



CHANNEL: PENXG FILTER: CH CLASS 1000

PEAK DATA 23.03 G 0 20.32 MS; -0 41 G 0 0.88 MS

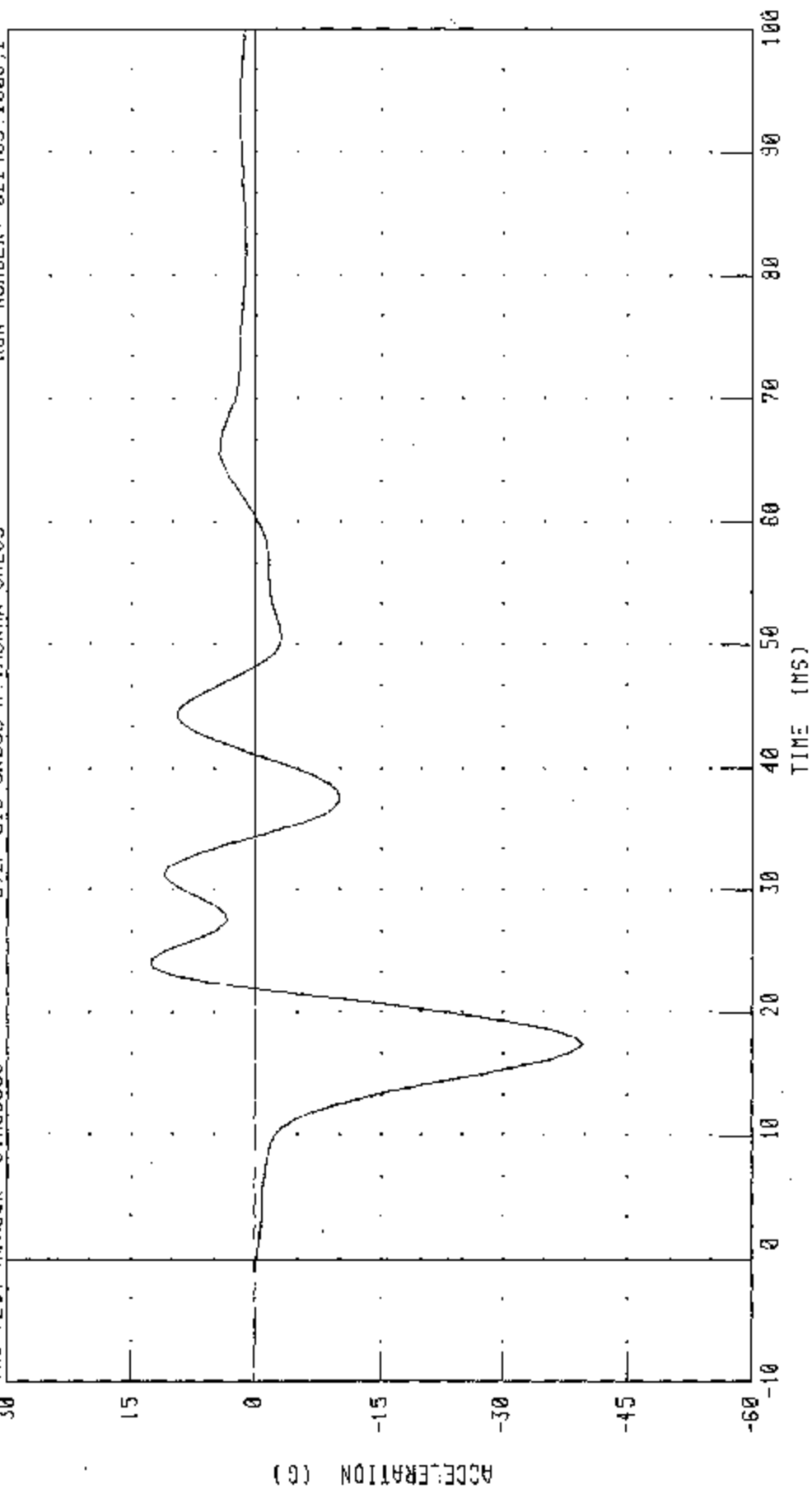
PART 572-F S.I.D. THORAX CALIBRATION - (RIGHT SIDE IMPACT)

RIGHT UPPER RIB ACCELERATION Y AXIS

TRC TEST NUMBER: STR06603

572F SID SN066 R THORAX CAL03

RUN NUMBER: 021403.1606.1



CHANNEL: RURYC

FILTER: FIR 100

TIME (MS)

PEAK DATA: 12.58 G @ 24.38 MS; -39.71 G @ 17.58 MS

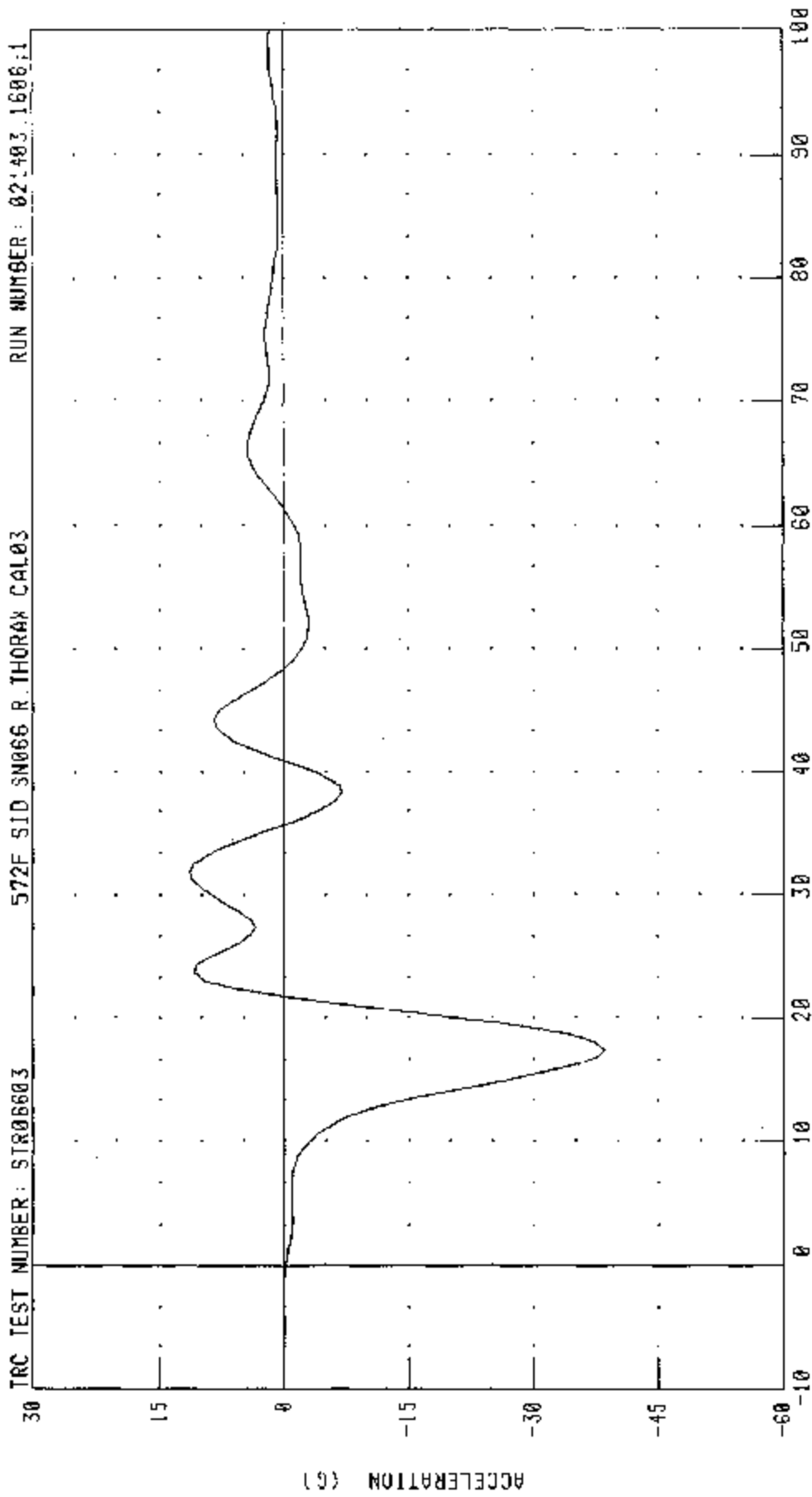
PART 572-F S.I.D. THORAX CALIBRATION - (RIGHT SIDE IMPACT)

RIGHT LOWER RIB ACCELERATION Y AXIS

TRC TEST NUMBER: STR06603

572F SID SN066 R THORAX CAL03

RUN NUMBER: 021483.1686.1



CHANNEL: RLRYC FILTER: FIR 100

PEAK DATA: 11 30 G @ 31.88 MS; -38.42 G @ 17.50 MS

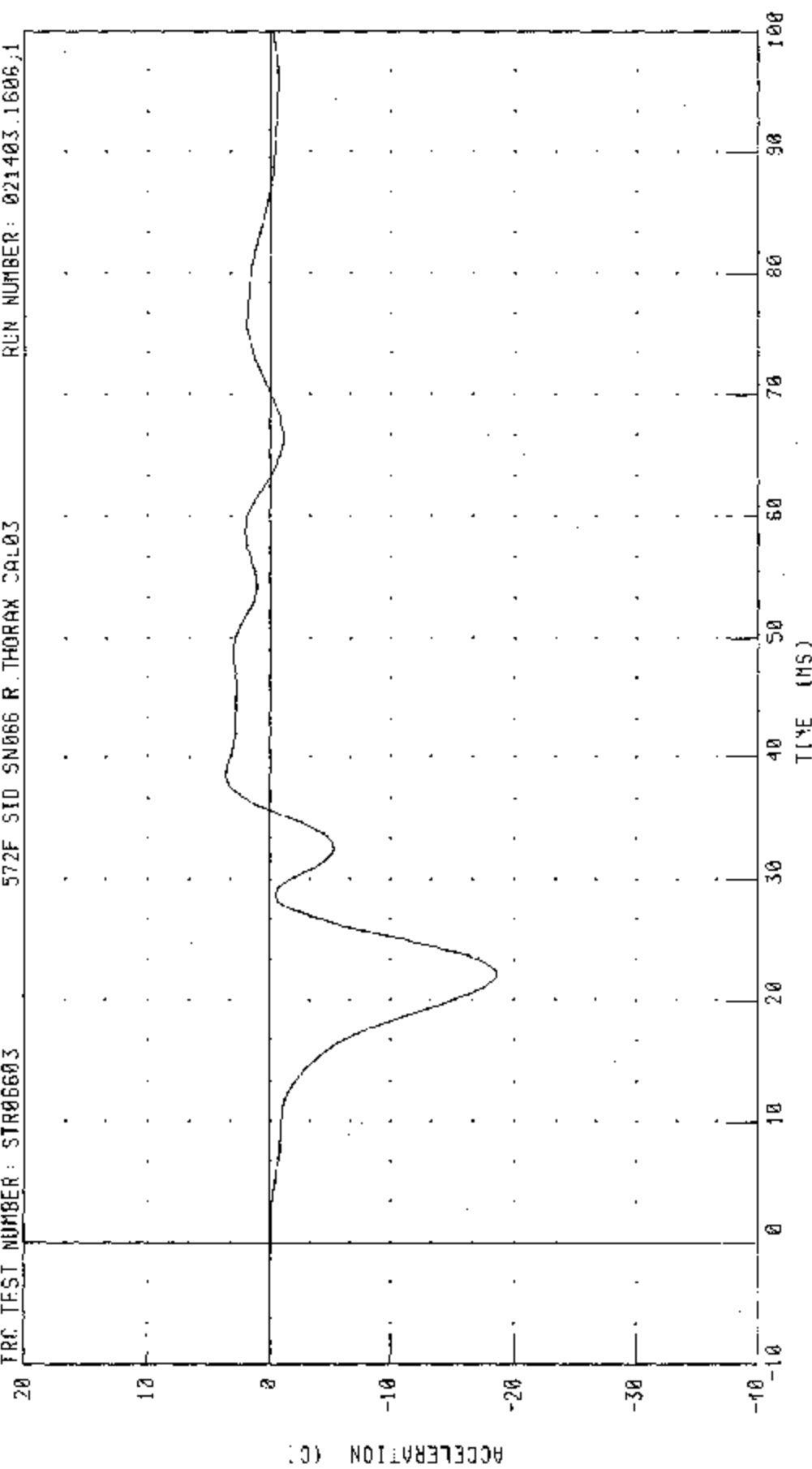
PART 572-F S.I.D. THORAX CALIBRATION - (RIGHT SIDE IMPACT)

LOWER SPINE ACCELERATION Y AXIS

572F SID SN066 R THORAX CAL03

TRC TEST NUMBER : STR06603

RUN NUMBER : 021403.1606,1



CHANNEL : I12YG

FILTER : FIR 100

TIME (MS)

PEAK DATA: 3.69 G @ 38.75 MS; -18.48 G @ 22.50 MS

TRANSPORTATION RESEARCH CENTER INC.

THORACIC SHOCK ABSORBER TESTS

SIDE IMPACT DUNNY

03-FEB-03

TRC INC.

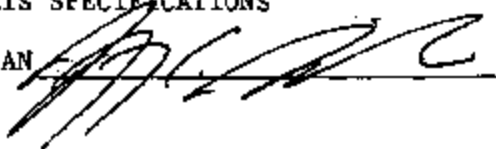
572F SN066 DAMPER TEST CAL02

TEST NUMBERS: DP06602A, DP06602B, DP06602C

TEST PARAMETER		SPECIFICATION	TEST RESULTS
TEMPERATURE		18.9 - 25.5 C	21.7 DEG. C
RELATIVE HUMIDITY		10 - 70 %	46.0 %
VELOCITY	FORCE	667 - 925 N	797 N
2.70 M/S	DISPLACEMENT	29.7 - 34.5 MM	29.9 MM
VELOCITY	FORCE	1733 - 2100 N	1877 N
4.26 M/S	DISPLACEMENT	31.6 - 37.2 MM	35.9 MM
VELOCITY	FORCE	3703 - 4402 N	4387 N
6.07 M/S	DISPLACEMENT	33.3 - 39.5 MM	37.8 MM

DAMPER SETTING = 5.0

TEST MEETS SPECIFICATIONS

TECHNICIAN 

RUN NUMBER: 020303.0731;1

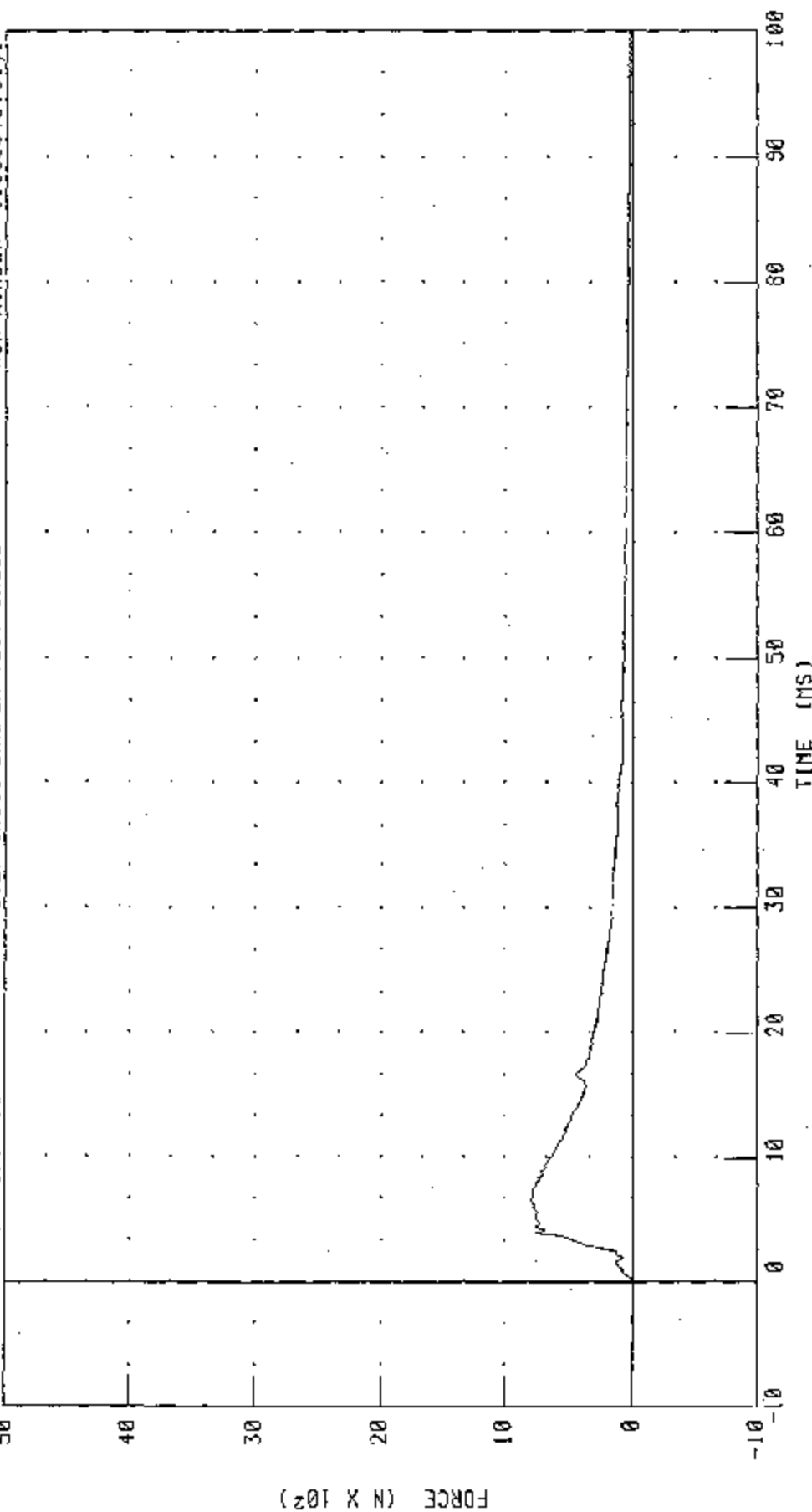
PART 572-F S.I.U. THORACIC SHOCK ABSORBER CALIBRATION (3.0 M/SEC)

SHOCK ABSORBER RESISTIVE FORCE

TRC TEST NUMBER: DP06602A

572F SN066 DAMPER TEST CAL02

RUN NUMBER 020303 0731.1



PEAK DATA: 796.77 N @ 6.48 MS, -2.29 N @ -10.00 MS

CHANNEL: DAMPF FILTER: CH. CLASS 1000

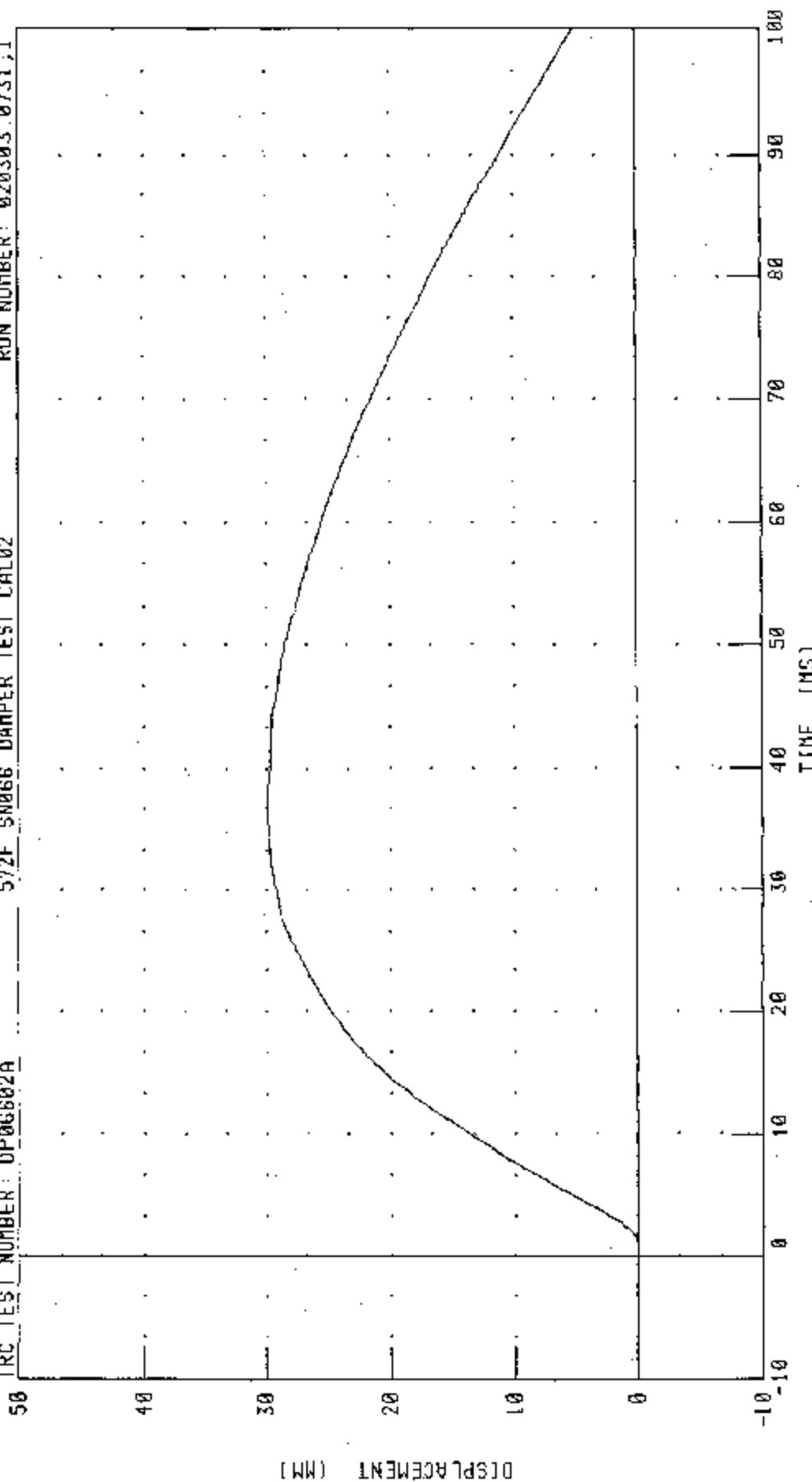
PART 572-F 5.10. THORACIC SHOCK ABSORBER CALIBRATION (3.0 M/SIC)

SHOCK ABSORBER DISPLACEMENT

TRC TEST NUMBER: DP06602A

572F SN066 DAMPER TEST CAL02

RUN NUMBER: 020303.0731.1



CHANNEL: CSTYD FILTER: CH. CLASS 1000

PEAK DATA: 29.94 MM @ 36.24 MS, 0.00 MM @ -4.40 MS

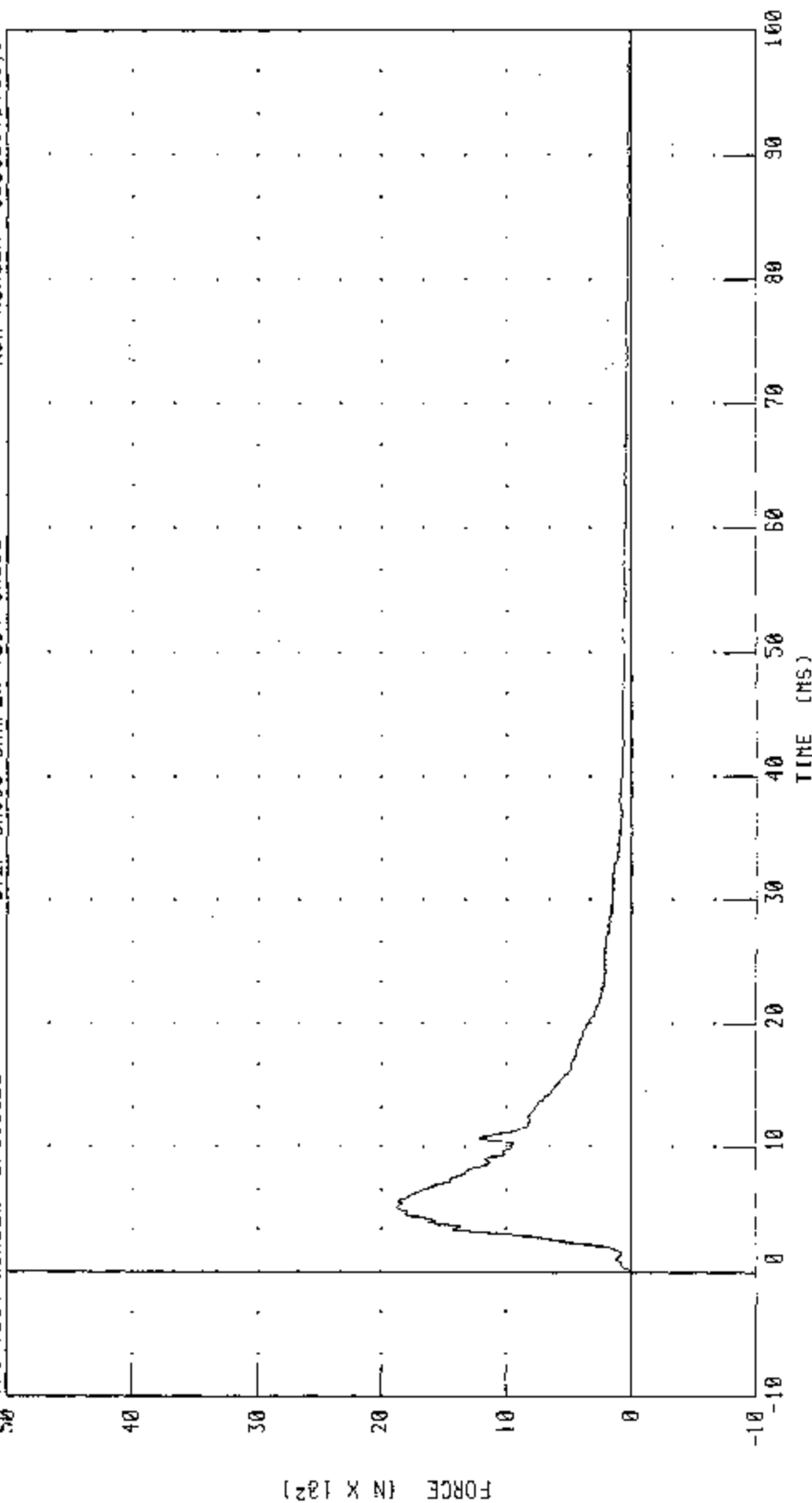
PART 572-F S.I.D. THORACIC SHOCK ABSORBER CALIBRATION (13 M/SEC)

SHOCK ABSORBER RESISTIVE FORCE

IRC TEST NUMBER: DP06602B

572F SN066 DAMPER TEST CAL02

RUN NUMBER: 020303 0751,1



PEAK DATA: 1876.76 N @ 5.12 MS; -2.52 N @ -8.96 MS

CHANNEL: DAMPF FILTER: CH. CLASS 1000

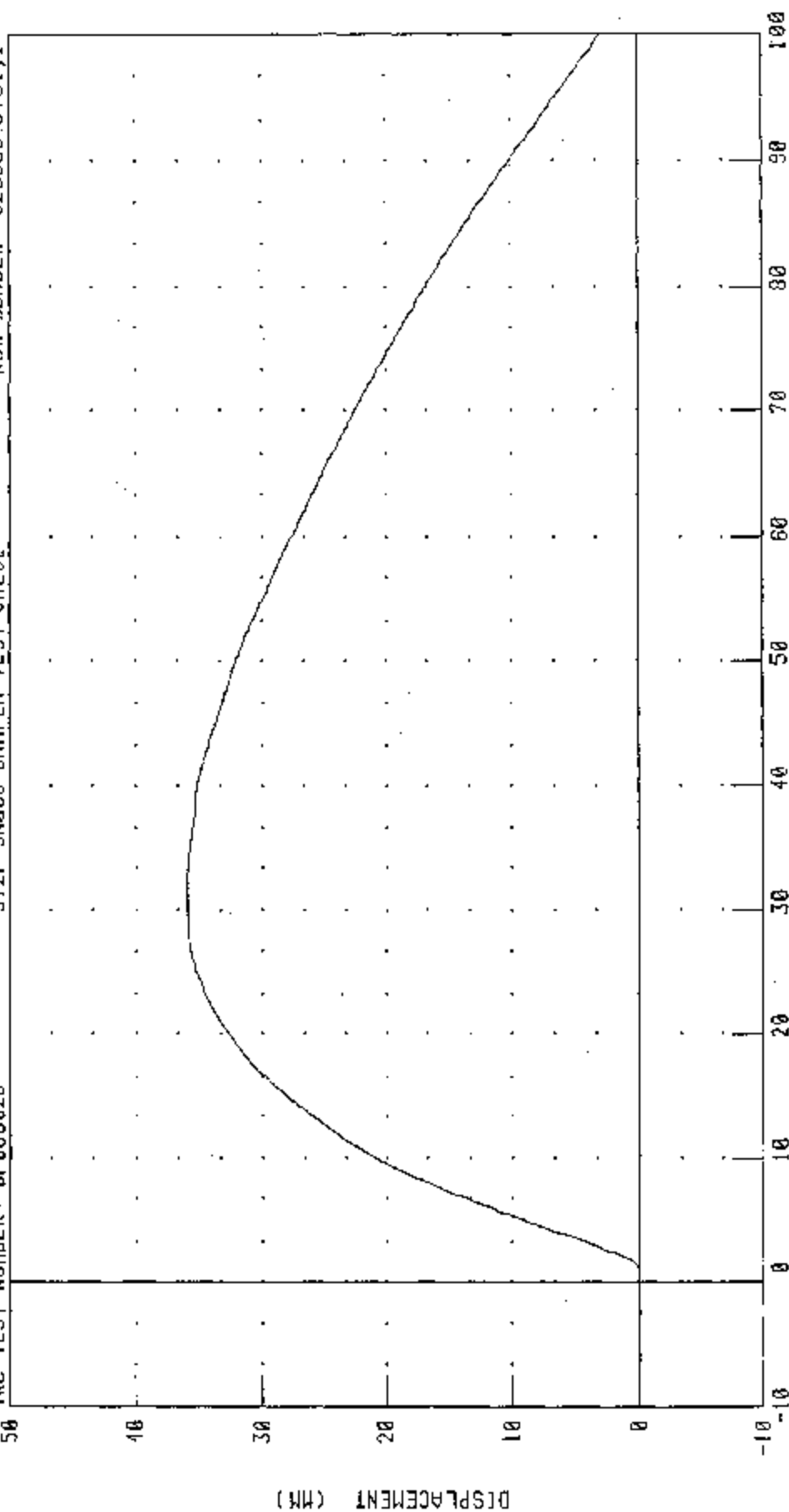
PART 572-F S.I.D. THORACIC SHOCK ABSORBER CALIBRATION (4.3 M/SEC)

SHOCK ABSORBER DISPLACEMENT

TRC TEST NUMBER: DP066028

572F SN066 DAMPER TEST CAL02

RUN NUMBER: 020303.0731.1



CHANNEL: CSTYD

FILTER: CH. CLASS 1000

PEAK DATA: 35.94 MM @ 31.12 MS; 0.00 MM @ -7.68 MS

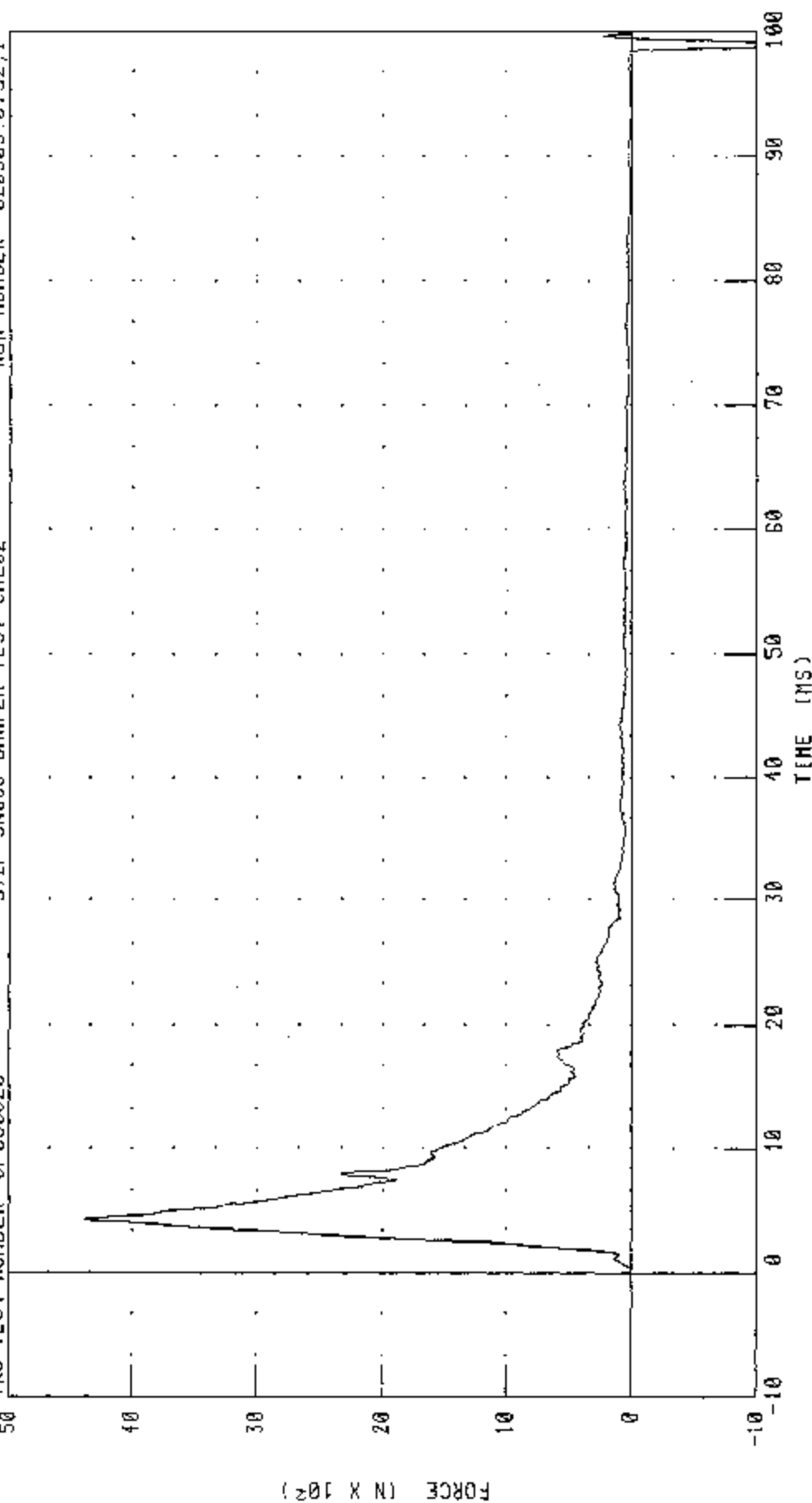
PART 572-F S.I.U. HYDRAIC SHOCK ABSORBER CALIBRATION (6.1 M/SEC)

SHOCK ABSORBER RESISTIVE FORCE

TRC TEST NUMBER: DP06602C

572F SN066 DAMPER TEST CAL02

RUN NUMBER: 020303.0732;1



PEAK DATA: 4387.36 N @ 4.16 MS, -1635.86 N @ 98.88 MS

CHANNEL: DAMPF FILTER: CH: CLASS 1000

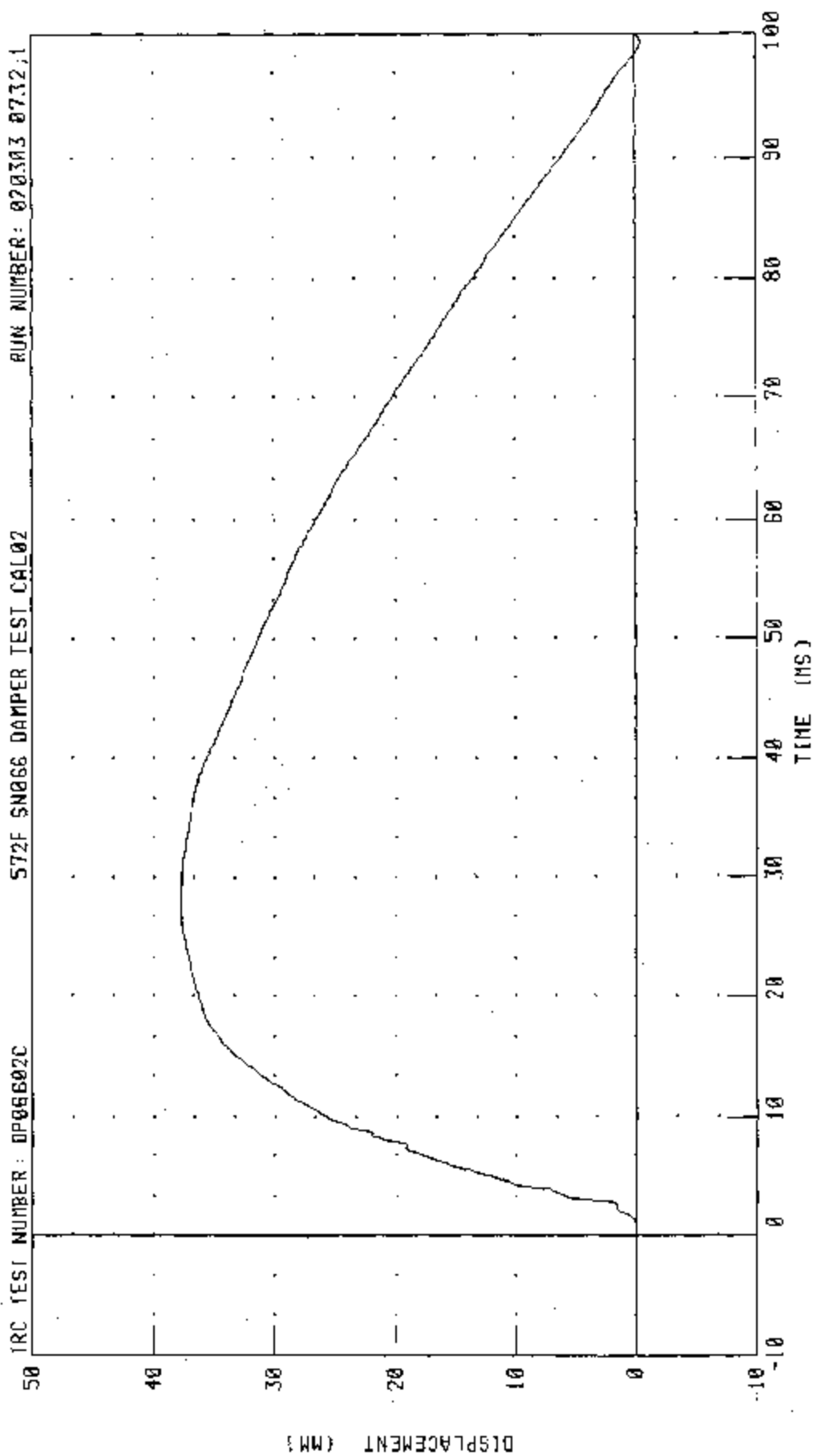
PART 572-F S.I.D. THORACIC SHOCK ABSORBER CALIBRATION (6.1 M/SEC)

SHOCK ABSORBER DISPLACEMENT

IRC TEST NUMBER: DP06602C

572F SN066 DAMPER TEST CAL02

RUN NUMBER: 020303 0732.1



CHANNEL: CSTVD

FILTER: CH. CLASS 1000

TIME (MS)

PEAK DATA: 37.76 MM @ 27.76 MS, -0.52 MM @ 99.36 MS

TRANSPORTATION RESEARCH CENTER INC.

LUMBAR FLEXION TEST

SID PART 572B

CAL DATE: 14-Feb-03

TRC, INC.

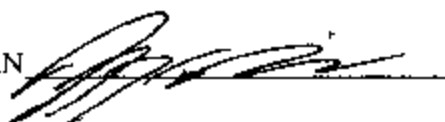
TEST NO: LF06603

572B SN 066 TORSO FLEX CAL 03

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9 - 25.6 DEG. C	21.1 DEG. C
RELATIVE HUMIDITY	10 - 70 %	30 %
FORCE AT 0 DEG. FLEXION	-27 - 27 N	0 N
FORCE AT 20 DEG OF FLEXION	98 - 151 N	124.6 N
FORCE AT 30 DEG OF FLEXION	151 - 205 N	191.3 N
FORCE AT 40 DEG OF FLEXION	205 - 258 N	244.7 N
NET RETURN ANGLE AFTER 3 MINUTES	< 12 DEG.	7 Deg

TEST MEETS SPECIFICATIONS

TECHNICIAN



Transportation Research Center Inc.

572B Abdomen Compression Test

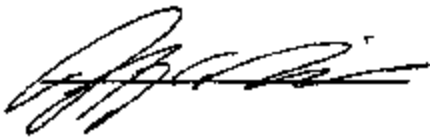
SID Serial No. 066 Calibration No. 03 - 1

Test Date 02/14/2003

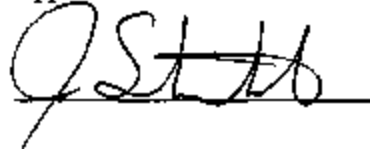
Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	31 %	Yes
Displacement Rate	6.35 - 8.89 mm/s	7.1 - 7.9 mm/s	Yes
Data Within Required Corridor	Yes	Yes	Yes

Comments:

Technician



Approved



02.18.2003 07:16:28 12

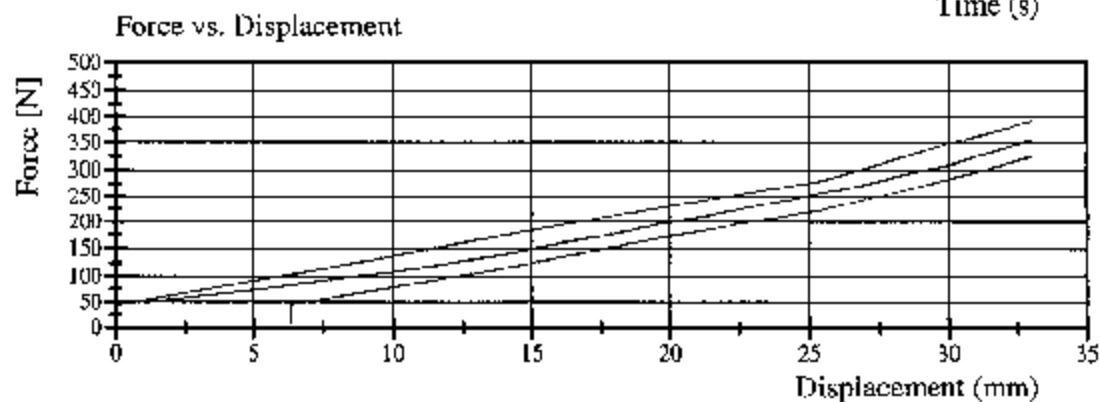
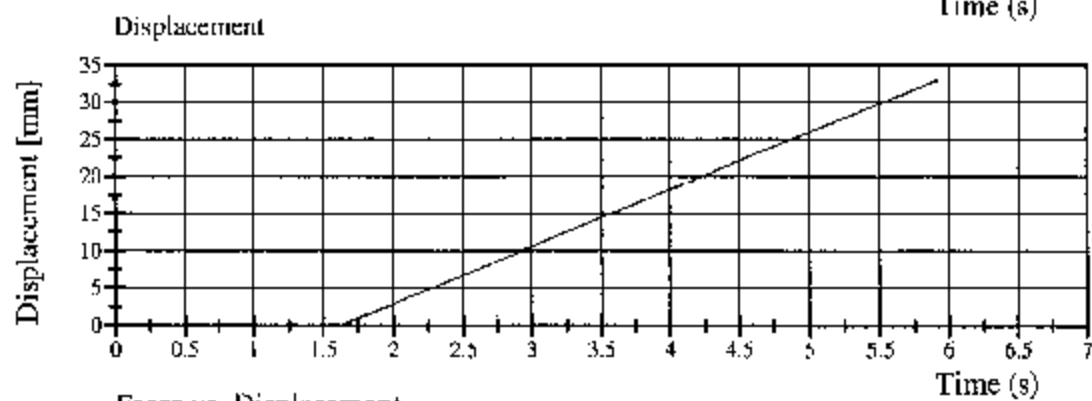
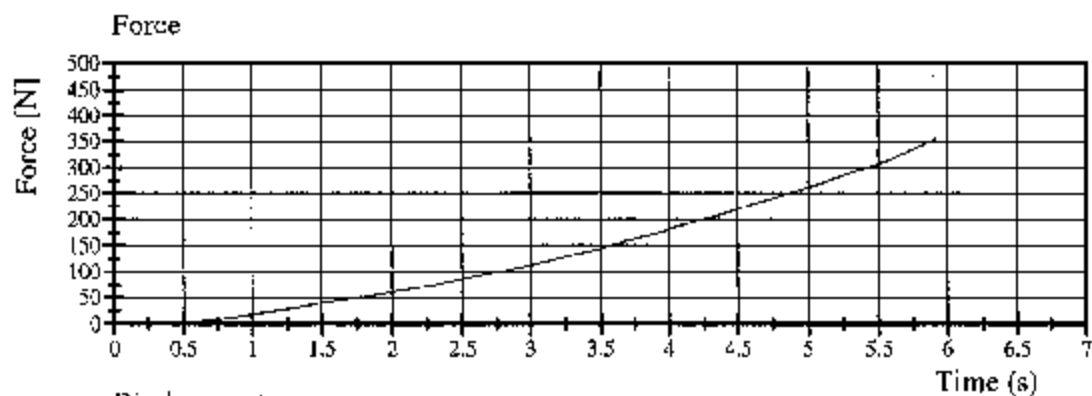


Transportation Research Center Inc.

572B Abdomen Compression Test

SID Serial No. 066 Calibration No. 03 - 1

Test Date 02/14/2003



TRANSPORTATION RESEARCH CENTER INC.

LATERAL PELVIS IMPACT TEST

SIDE IMPACT DUMMY

14-FEB-03

RIGHT SIDE CONFIGURATION

TRC INC.

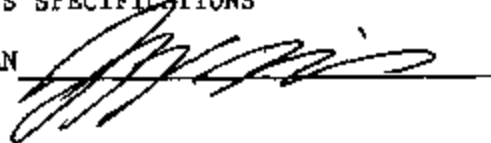
TEST NO: SPR06603

572F SN066 RIGHT PELVIS CAL03

TEST PARAMETER	SPECIFICATION (ABSOLUTE VALUE)	TEST RESULTS
TEMPERATURE	18.9 - 25.5 C	21.7 DEG. C
RELATIVE HUMIDITY	10 - 70 %	30.0 %
PENDULUM VELOCITY	4.21 - 4.33 M/S	4.28 M/S
PEAK PELVIC ACCELERATION	40 - 60 G	-43.8 G
TIME ABOVE 20 G LEVEL	3 - 7 MS	6.2 MS
IS ACCELERATION CURVE UNIMODAL?	YES	YES

TEST MEETS SPECIFICATIONS

TECHNICIAN



RUN NUMBER: 021403.1611;1

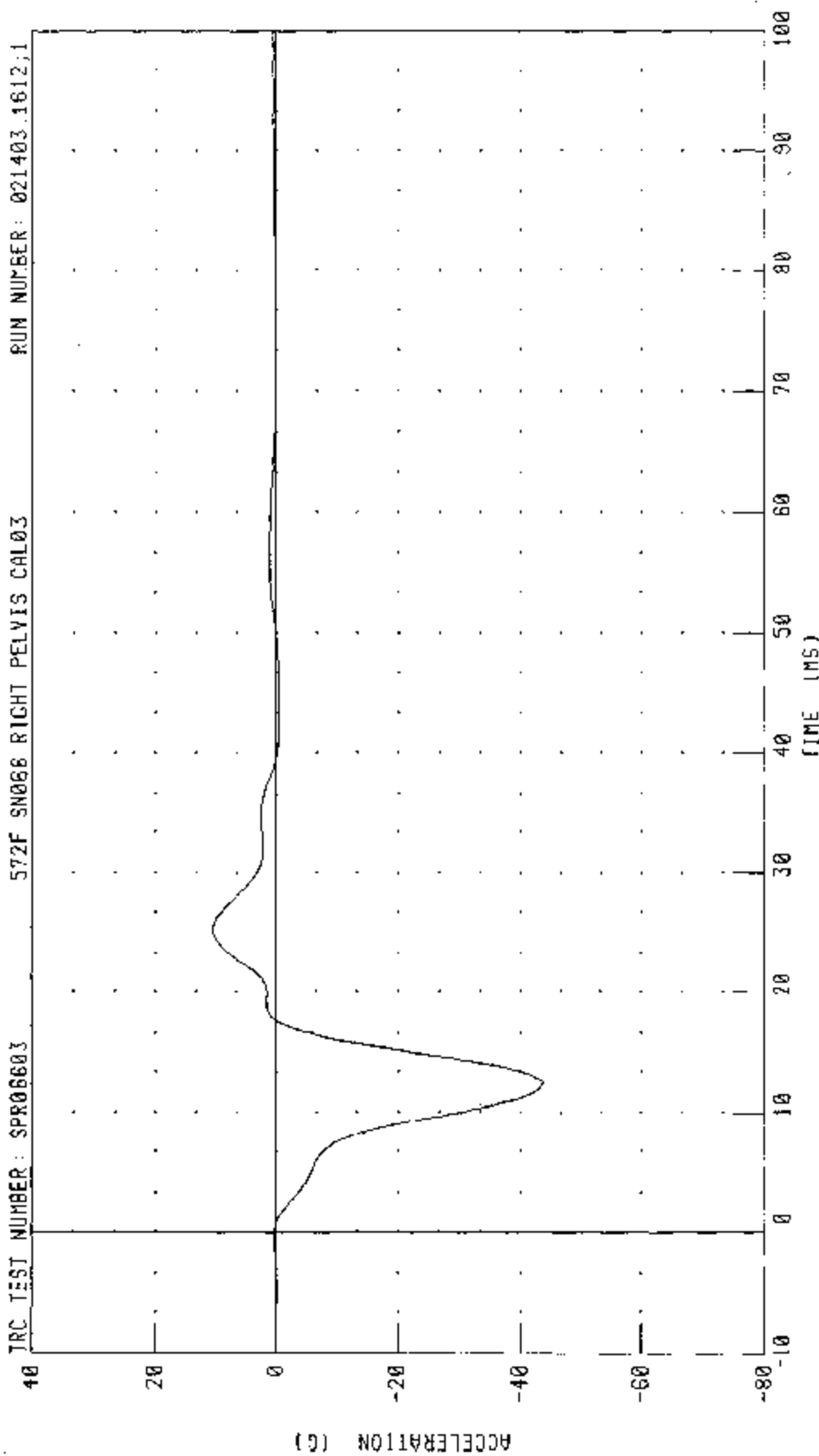
PAR 572-F S.I.D. PELVIS CALIBRATION - (RIGHT SIDE IMPACT)

PELVIS ACCELERATION Y AXIS

572F SN066 RIGHT PELVIS CAL03

TRC TEST NUMBER: SPR06603

RUN NUMBER: 021403.1612;1



CHANNEL: PEVYG

FILTER: FIR 100

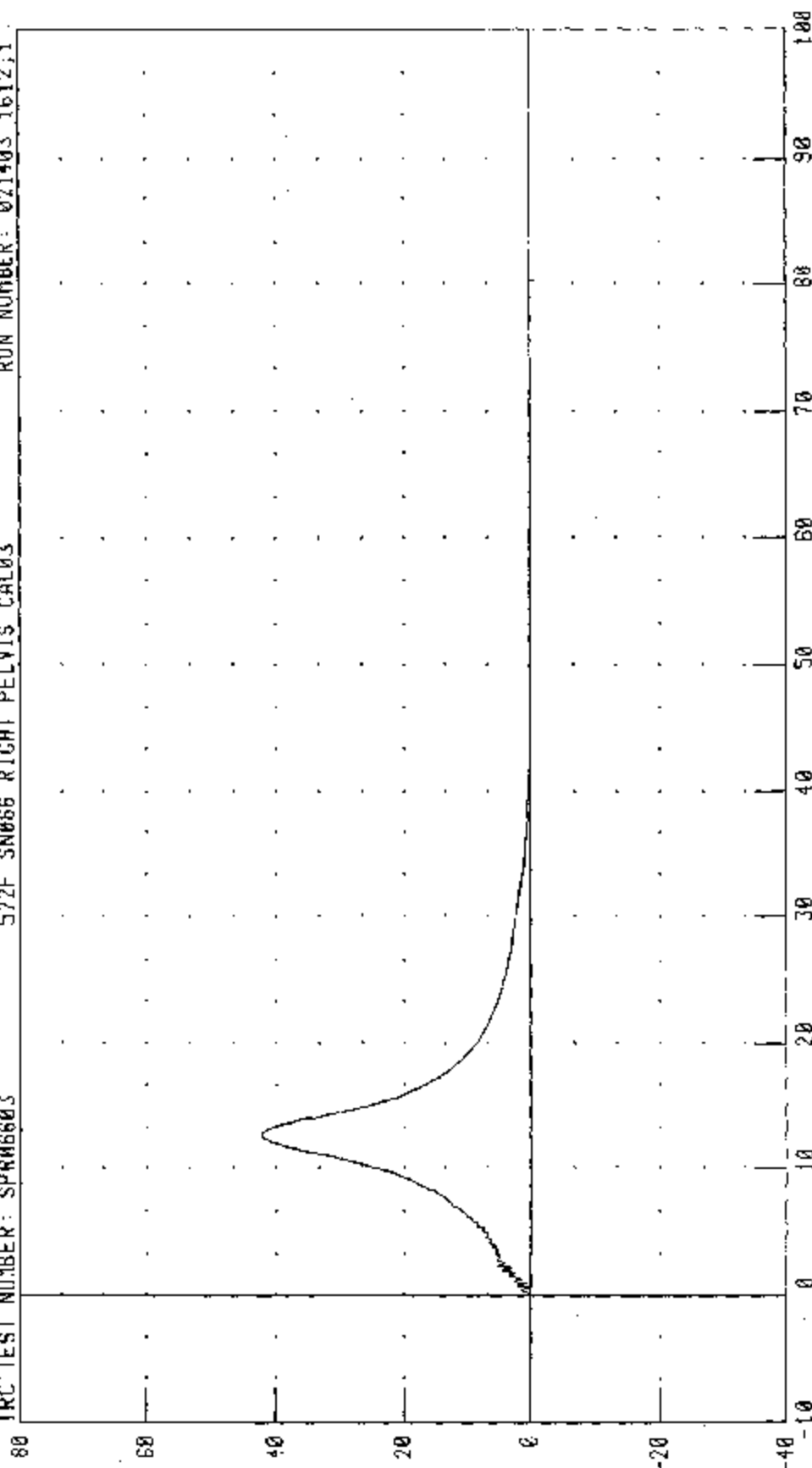
TIME (MS)

PEAK DATA: 10.40 G @ 25.00 MS; -43.75 G @ 12.50 MS

PART 572-F S J D PELVIS CALIBRATION - (RIGHT SIDE IMPACT)

PENDULUM DECELERATION

TRC TEST NUMBER: SPR06603 572F SN066 RIGHT PELVIS CAL03 RUN NUMBER: 021403 1612,1



TIME (MS)

PEAK DATA: 42.23 G @ 12.64 MS; -0.07 G @ 62.72 MS

CHANNEL: PENXC FILTER: CH CLASS 1000

ACCELERATION (G)

Calibration Test Results

Pre-Test

SID: 065

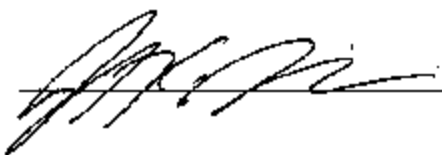
Configured for Right Side Impact

External Dimensions:	The dummy passed all external dimension requirements.
Lateral Thorax Impact Test:	The lateral thorax passed all impact test requirements.
Thoracic Shock Absorber Test:	The thoracic shock absorber passed all test requirements (tested on February 3, 2003 for a previous calibration series).
Lumbar Flexion Test:	The dummy met the lumbar flexion test requirements.
Abdominal Compression Test:	The abdomen met the compression test requirements.
Pelvis Impact Test:	The lateral pelvis passed all impact test requirements.

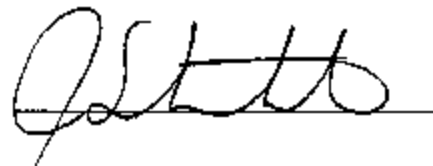
Transportation Research Center Inc.
572F SID Dummy
External Dimensions
Serial No. 065 Calibration No. 03

Test Parameter	Dimension	Specification	Results	Pass
Seated Height	SH	889.0 - 909.3 mm	893 mm	Yes
Knee Pivot From Backline	KH	510.5 - 525.8 mm	515 mm	Yes
Knee Pivot From Floor	KV	490.2 - 505.5 mm	499 mm	Yes
Hip Width	HW	355.6 - 391.2 mm	372 mm	Yes
Rib Height	RH	501.7 - 520.7 mm	510 mm	Yes
Rib From Backline	RD	228.6 - 241.3 mm	237 mm	Yes
Top Rib Width From C/L	RW-1	165.1 - 180.3 mm	175 mm	Yes
Bottom Rib Width From C/L	RW-2	165.1 - 180.3 mm	174 mm	Yes
Difference Between Top & Bottom Rib Width from C/L		<= 2.5 mm	1.0 mm	Yes

Technician



Approved



TRE

TRANSPORTATION RESEARCH CENTER INC.

LATERAL THORAX IMPACT TEST

SIDE IMPACT DUMMY

14-FEB-03

RIGHT SIDE CONFIGURATION

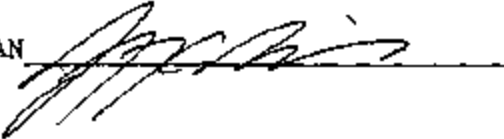
TRC INC.

TEST NO: STR06503

572F SID SN065 R.THORAX CAL03

TEST PARAMETER	SPECIFICATION (ABSOLUTE VALUE)	TEST RESULTS
TEMPERATURE	18.9 - 25.5 C	21.7 DEG. C
RELATIVE HUMIDITY	10 - 70 %	30.0 %
PENDULUM VELOCITY	4.21 - 4.33 M/S	4.28 M/S
PEAK ACCELERATION: UPPER RIB BAR	37 - 46 G	-39.1 G
PEAK ACCELERATION: LOWER RIB BAR	37 - 46 G	-37.9 G
PEAK ACCELERATION: LOWER THORACIC SPINE	15 - 22 G	-18.2 G

TEST MEETS SPECIFICATIONS

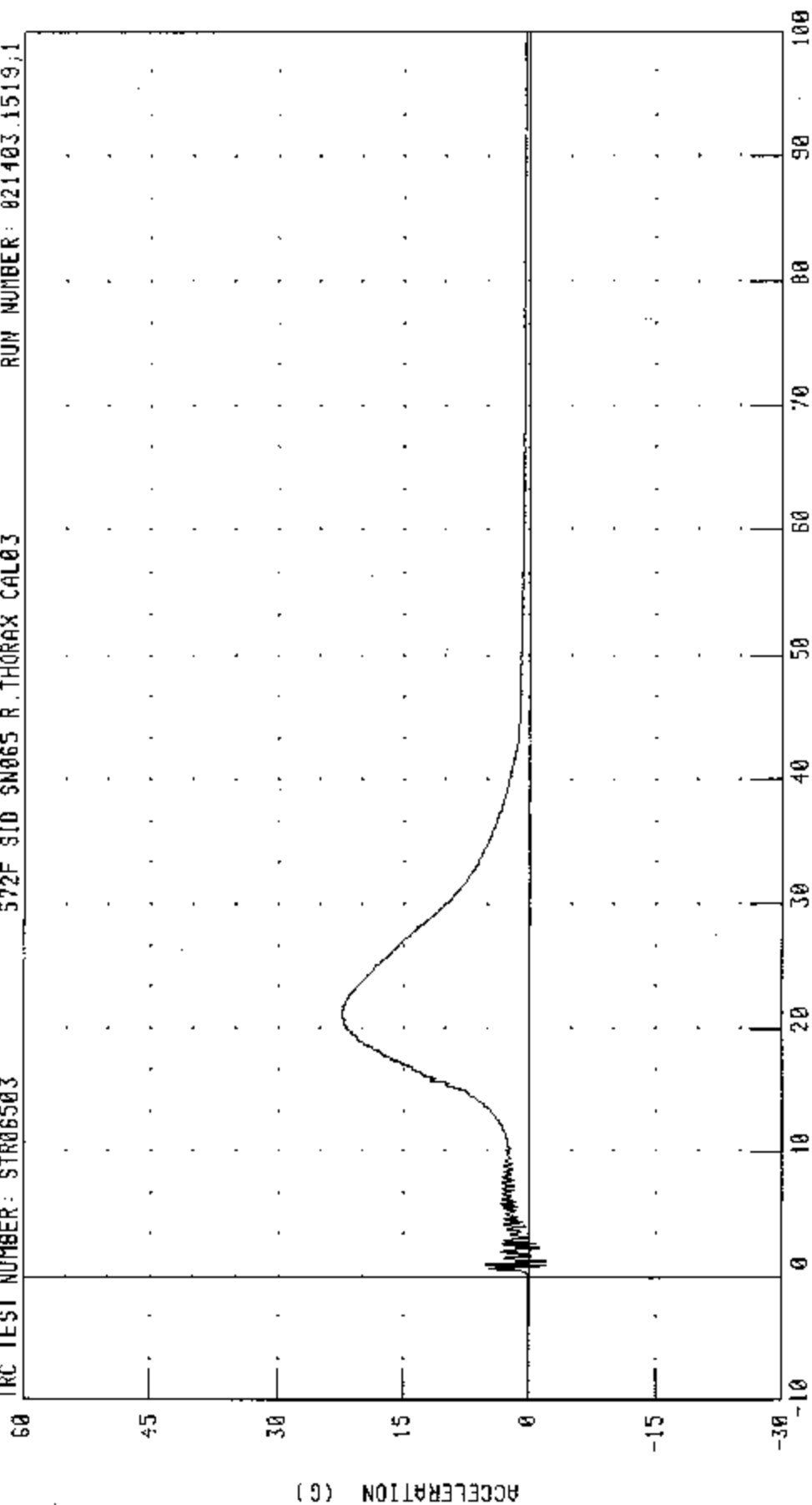
TECHNICIAN 

RUN NUMBER: 021403.1518;1

PART 572-F S.I.D. THORAX CALIBRATION - (RIGHT SIDE IMPACT)

PENDULUM DECELERATION

TRC TEST NUMBER: STR06503 572F SID SN065 R.THORAX CAL03 RUN NUMBER: 021403.1519.1



TIME (MS)

PEAK DATA: 22.44 G @ 20.88 MS, -2.18 G @ 36 MS

CHANNEL: PENXC FILTER: CH. CLASS 1000

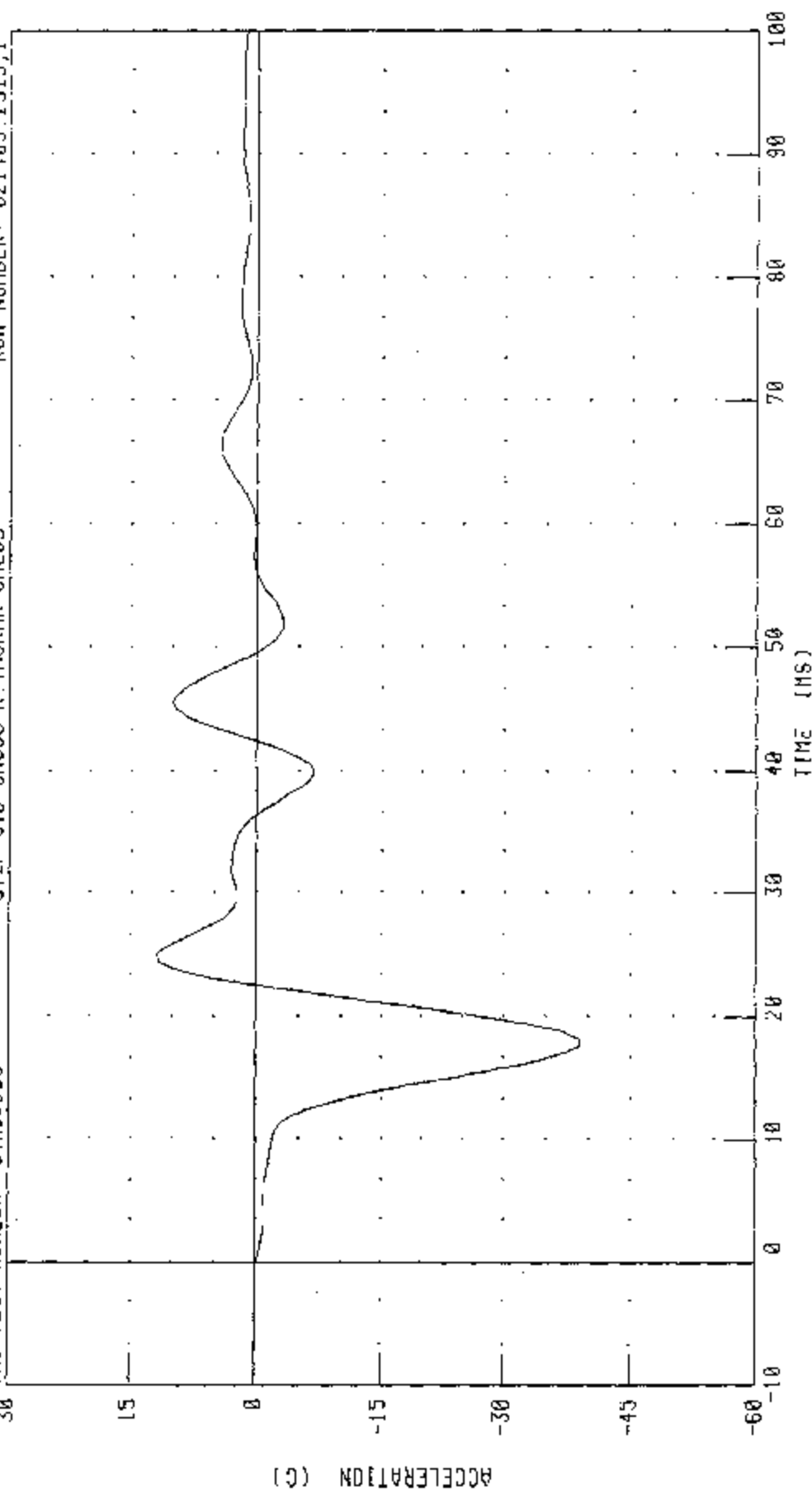
PART 572-F S.I.D. THORAX CALIBRATION - (RIGHT SIDE IMPACT)

RIGHT UPPER RIB ACCELERATION Y AXIS

TRC TEST NUMBER: STR06503

572F SID SN065 R THORAX CAL03

RUN NUMBER: 021403.1519.1



CHANNEL: RURYC

FILTER: FIR 100

TIME (MS)

PEAK DATA: 11.03 @ 25.00 MS, -39.06 G @ 18.13 MS

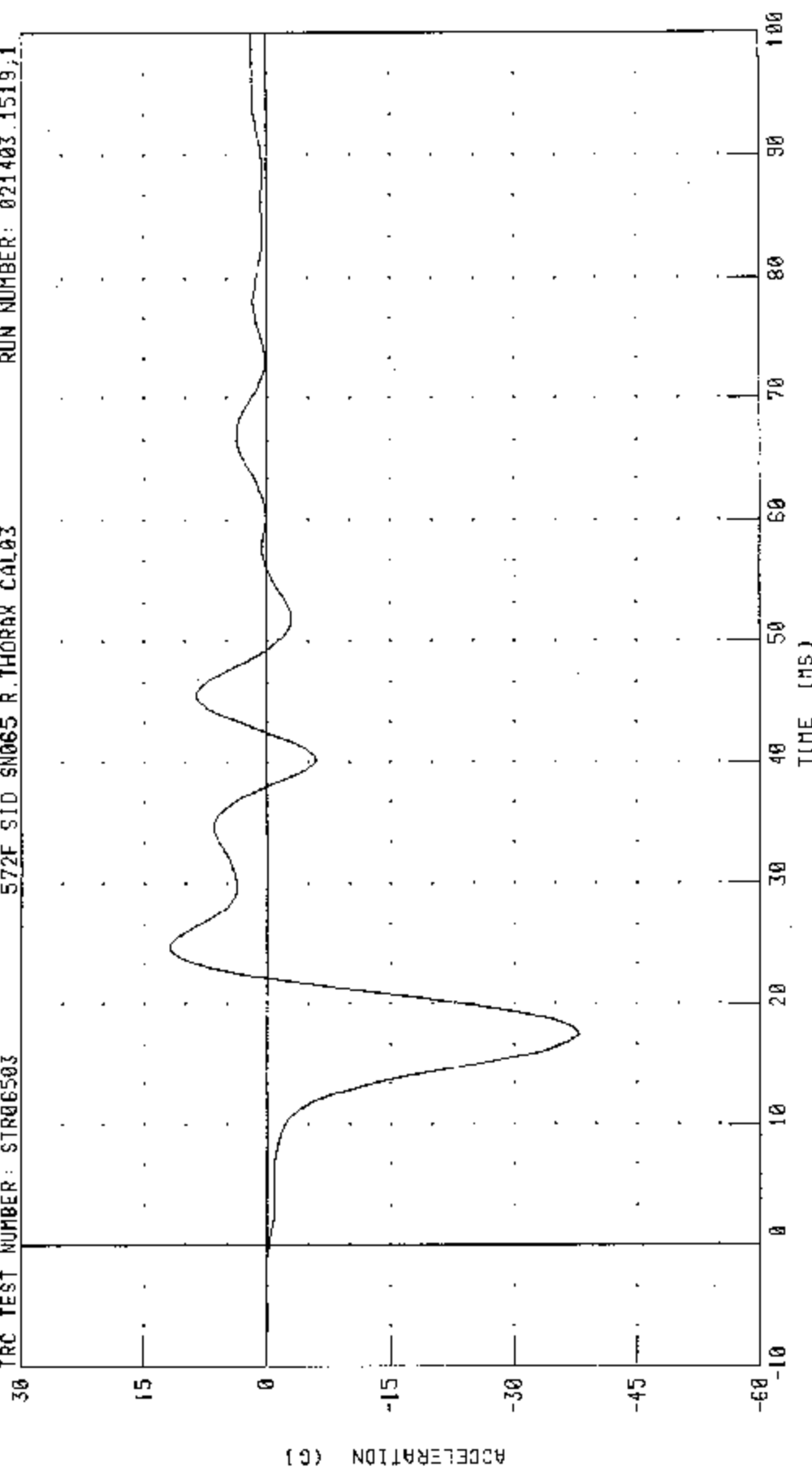
PART 572-F S.I.D. THORAX CALIBRATION - (RIGHT SIDE IMPACT)

RIGHT LOWER RIB ACCELERATION Y AXIS

TRC TEST NUMBER: STR06503

572F SID SN065 R THORAX CAL03

RUN NUMBER: 021403.1519.1



CHANNEL: RLRYC FILTER: FIR 100

PEAK DATA: 1) 88 G @ 25.00 MS; -37.87 G @ 17.50 MS

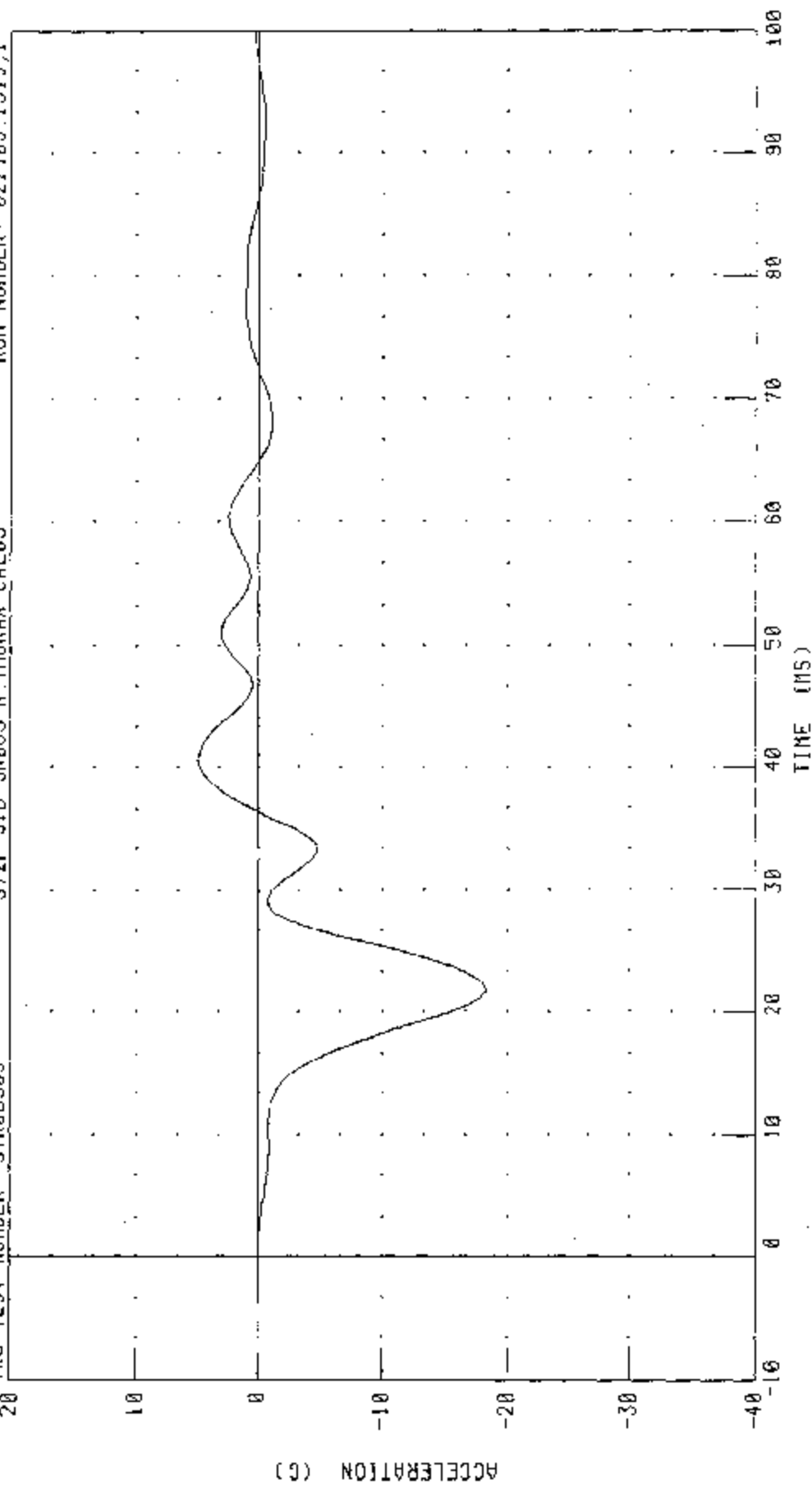
PART 572-F S.I.D. THORAX CALIBRATION (RIGHT SIDE IMPACT)

LOWER SPINE ACCELERATION Y AXIS

TRC TEST NUMBER: STR06503

572F SID SN065 R THORAX CAL03

RUN NUMBER: 021403.1519.1



PEAK DATA: 4.99 G @ 40.63 MS; -18.25 G @ 21.88 MS

CHANNEL: T12YC FILTER: FIR 100

TRANSPORTATION RESEARCH CENTER INC.

THORACIC SHOCK ABSORBER TESTS

SIDE IMPACT DUMMY

03-FEB-03

TRC INC.

572F SN066 DAMPER TEST CAL02

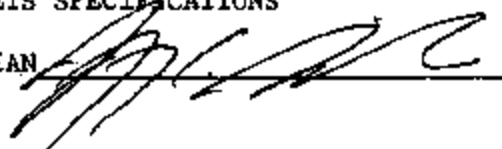
TEST NUMBERS: DP06602A, DP06602B, DP06602C

TEST PARAMETER		SPECIFICATION	TEST RESULTS
TEMPERATURE		18.9 - 25.5 C	21.7 DEG. C
RELATIVE HUMIDITY		10 - 70 %	46.0 %
VELOCITY	FORCE	667 - 925 N	797 N
2.70 M/S	DISPLACEMENT	29.7 - 34.5 MM	29.9 MM
VELOCITY	FORCE	1733 - 2100 N	1877 N
4.26 M/S	DISPLACEMENT	31.6 - 37.2 MM	35.9 MM
VELOCITY	FORCE	3703 - 4402 N	4387 N
6.07 M/S	DISPLACEMENT	33.3 - 39.5 MM	37.8 MM

DAMPER SETTING = 5.0

TEST MEETS SPECIFICATIONS

TECHNICIAN



RUN NUMBER: 020303.0731;1

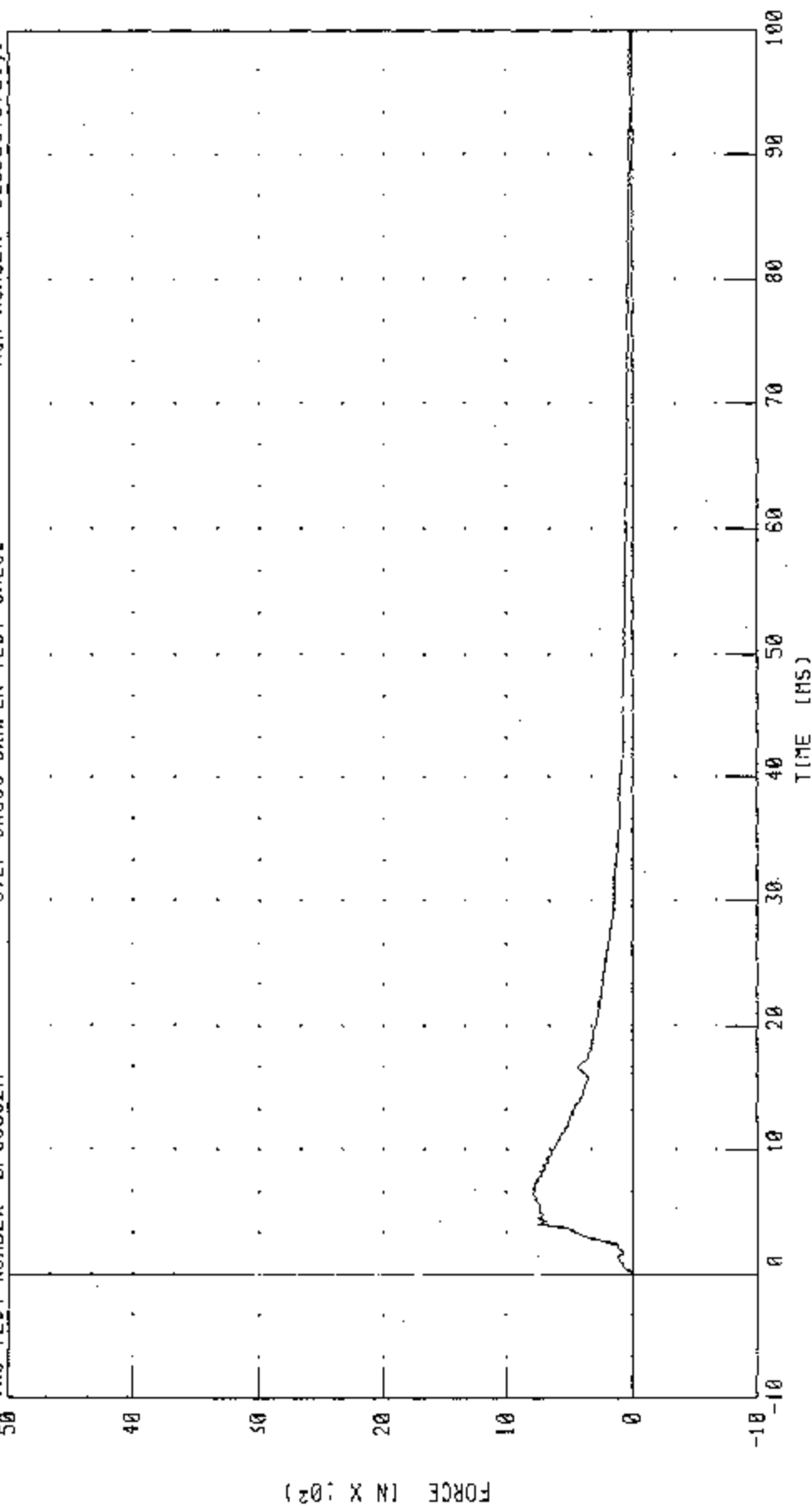
PART 572-F S.I.D. THORACIC SHOCK ABSORBER CALIBRATION (3.0 N/SEC)

SHOCK ABSORBER RESISTIVE FORCE

TRC TEST NUMBER: DP06602A

572F SN066 DAMPER TEST CAL02

RUN NUMBER: 020303.0731;1



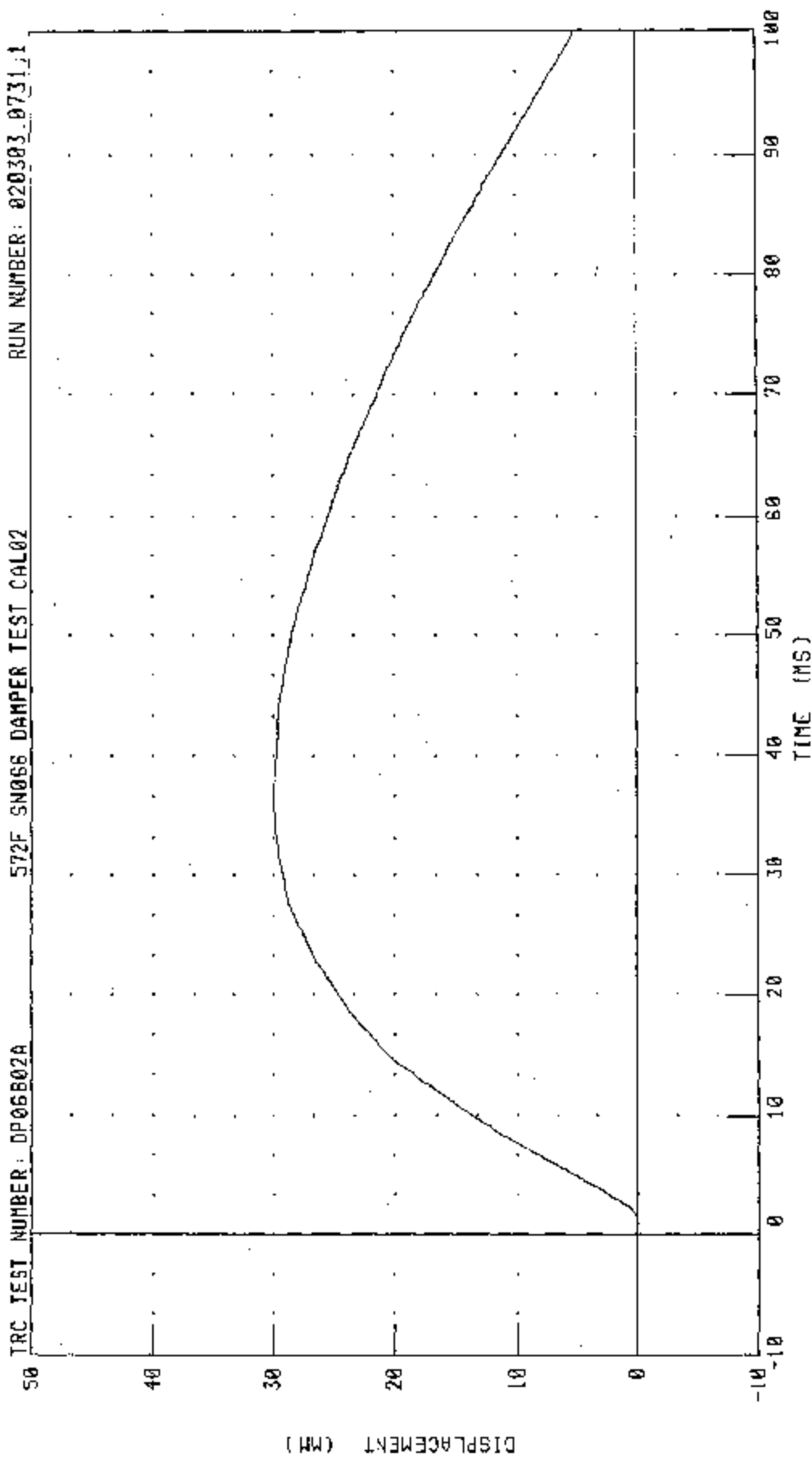
CHANNEL: DAMPF FILTER: CH. CLASS 1000

PEAK DATA: 796.77 N @ 6.48 MS; -2.09 N @ -10.00 MS

PART 572-F S.I.D. THORACIC SHOCK ABSORBER CALIBRATION (3.0 N/SEC)

SHOCK ABSORBER DISPLACEMENT

TRC TEST NUMBER: DP06B02A 572F SN066 DAMPER TEST CAL02 RUN NUMBER: 020303.0731.1



CHANNEL: CSFYD FILTER: CH. CLASS 1000

PEAK DATA: 29.94 MM @ 36.24 MS, 0.00 NM @ -4.40 MS

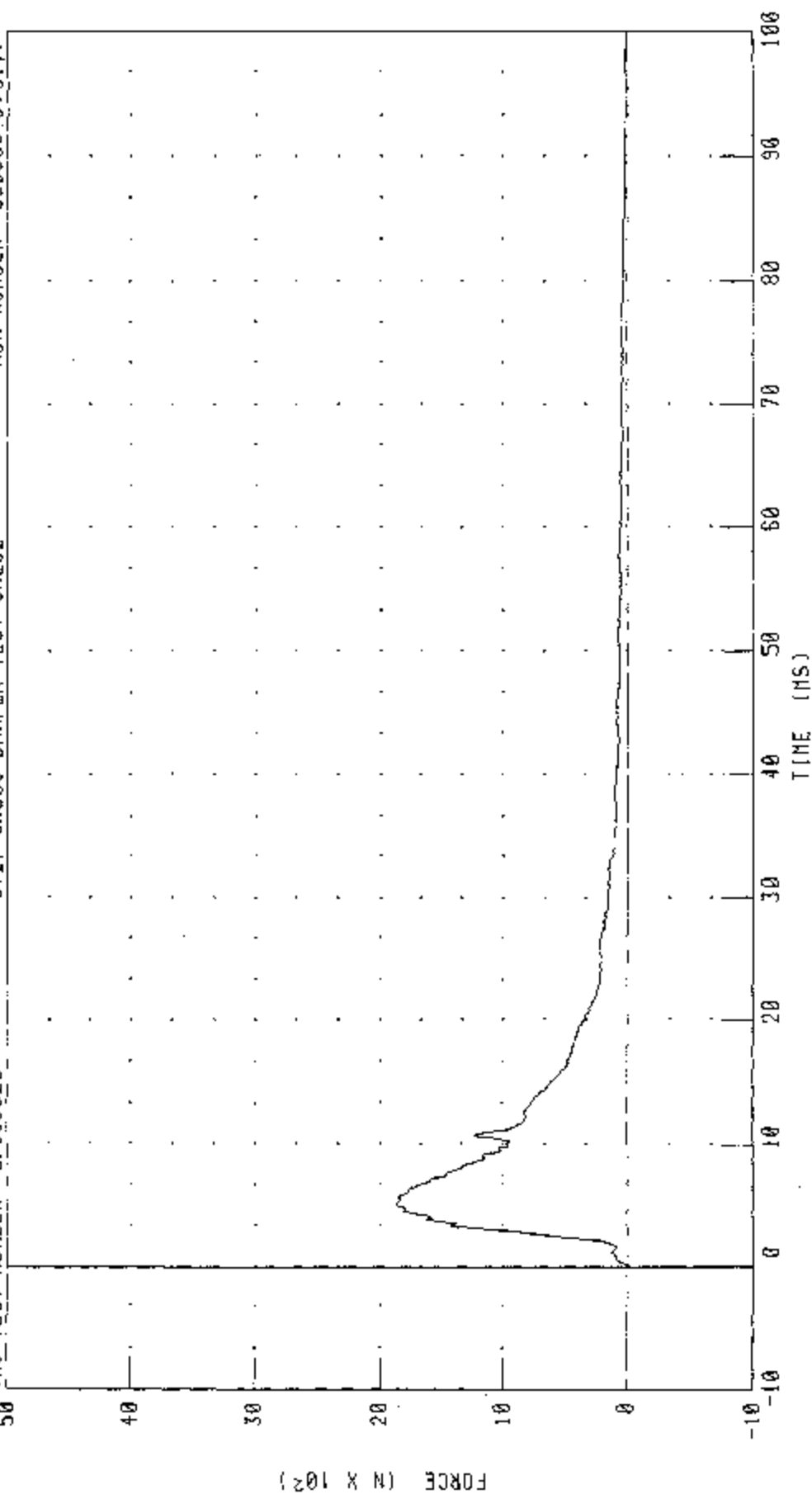
PART 572-F S.I.U. THORACIC SHOCK ABSORBER CALIBRATION (4.3 N/SEC)

SHOCK ABSORBER RESISTIVE FORCE

IRC TEST NUMBER: DP06602B

572F SN066 DAMPER TEST CAL02

RUN NUMBER: 020303 0731.1



PEAK DATA: 1876.76 N @ 5.12 MS; -2.32 N @ -8.96 MS

CHANNEL: DAMPF FILTER: CH. CLASS 1000

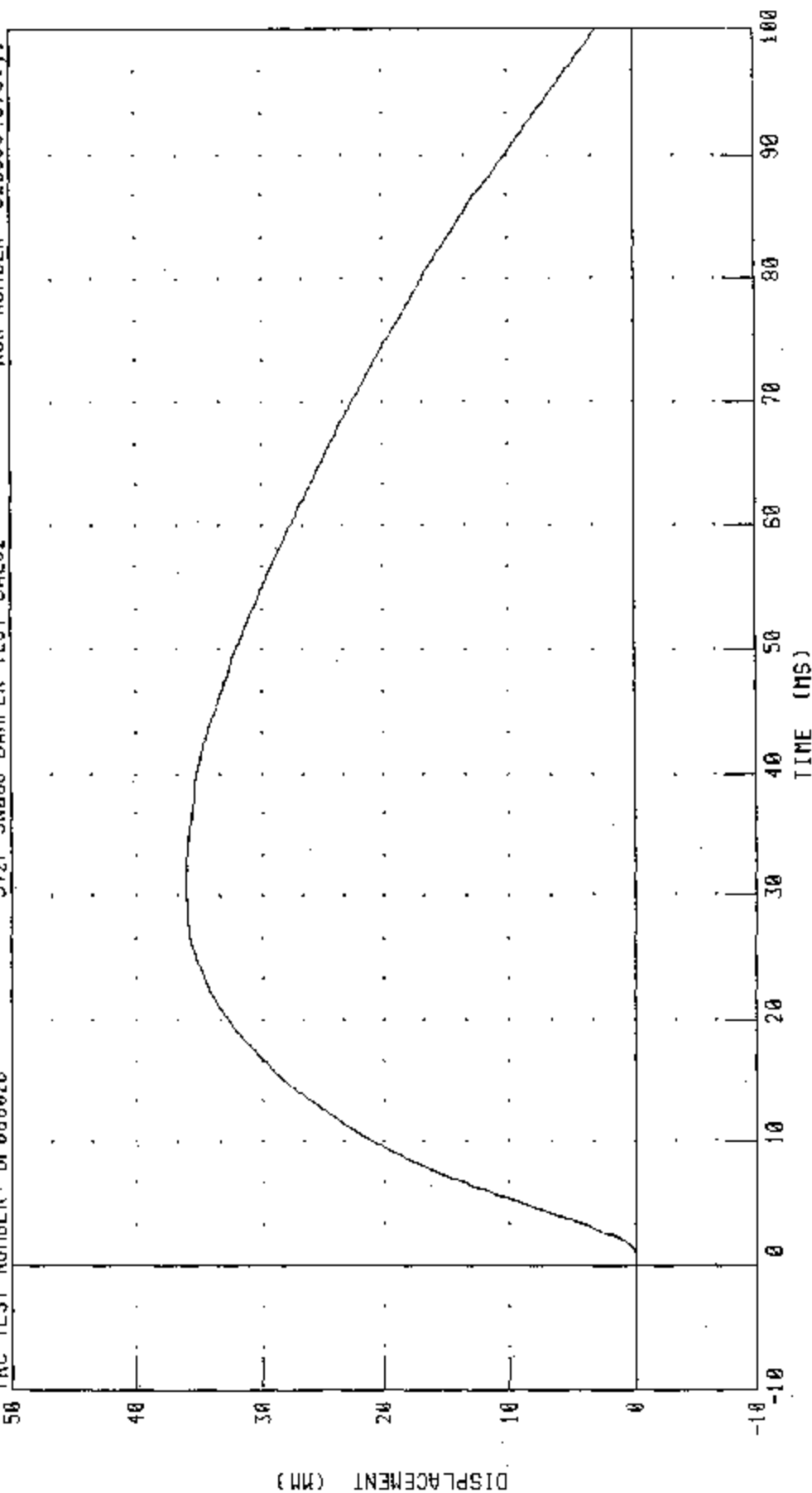
PART 572-F S.I.D. THORACIC SHOCK ABSORBER CALIBRATION (4.3 M/SEC)

SHOCK ABSORBER DISPLACEMENT

TRC TEST NUMBER: DP06602B

572F SN066 DAMPER TEST CAL02

RUN NUMBER: 020303.0731.1

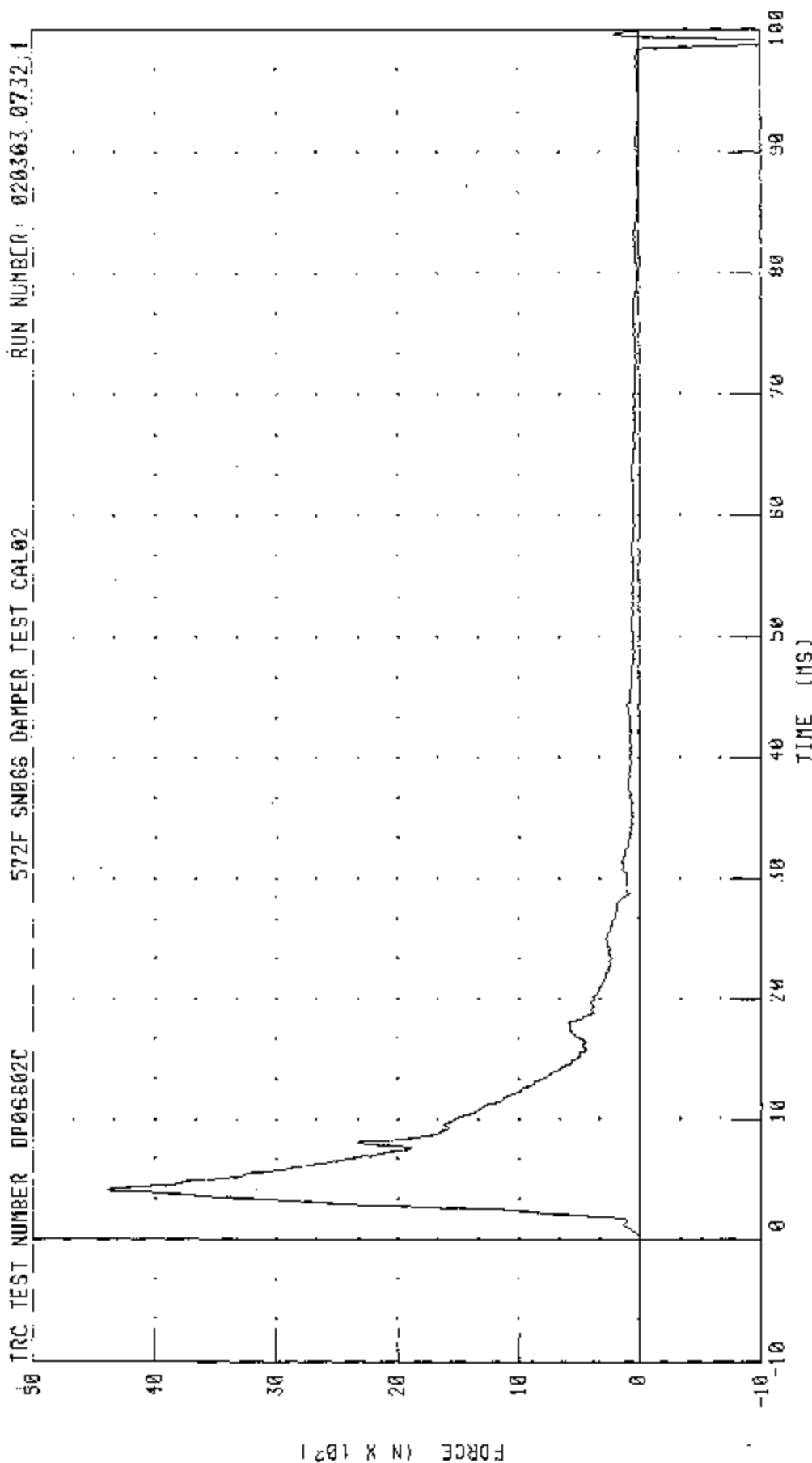


CHANNEL: CSTYD

FILTER: CH. CLASS 1000

PEAK DATA: 35.94 MM @ 31.12 MS; 0.00 MM @ -7.68 MS

PART 572-F S I.D THORACIC SHOCK ABSORBER CALIBRATION (6.1 N/SEC)
 SHOCK ABSORBER RESISTIVE FORCE



PEAK DATA: 4387.36 N @ 4.16 MS, -1635.86 N @ 98.88 MS

CHANNEL: DAMPF FILTER CH. CLASS 1000

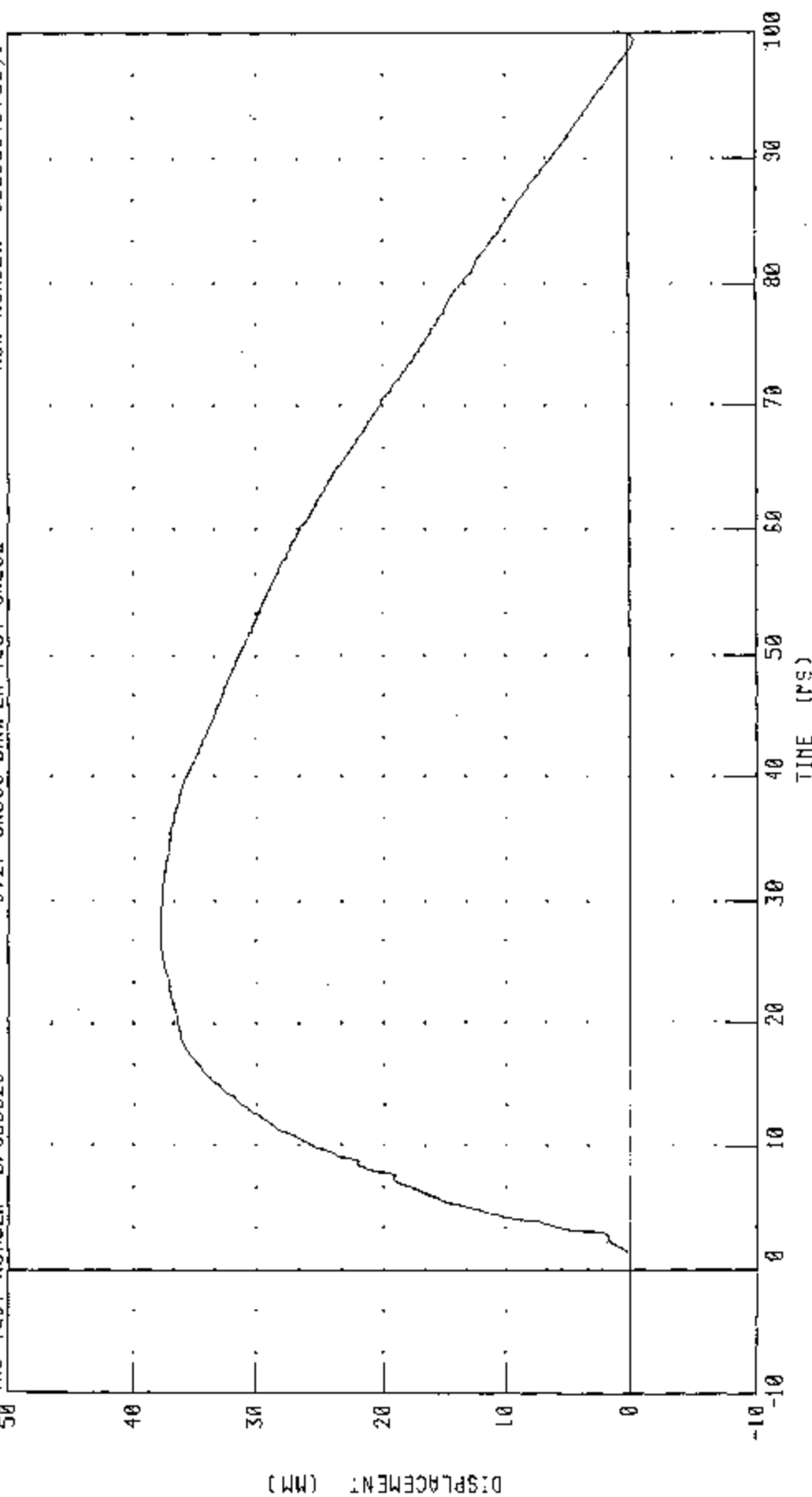
PART 572-F S.I.D. HYDRAIC SHOCK ABSORBER CALIBRATION (6 t H/SEC)

SHOCK ABSORBER DISPLACEMENT

572F SN066 DAMPER TEST CAL02

TRC TEST NUMBER: DP06602C

RUN NUMBER: 020303.0732.1



PEAK DATA: 37.76 MM @ 27.76 MS, -0.52 MM @ 99.36 MS

CHANNEL: CSTYD FILTER: CH. CLASS 1000

TRANSPORTATION RESEARCH CENTER INC.

LUMBAR FLEXION TEST

SID PART 572B

CAL DATE: 14-Feb-03

TRC, INC.

TEST NO: 065C03LF1

572B SN 065 TORSO FLEX CAL 03

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9 – 25.6 DEG. C	21.1 DEG. C
RELATIVE HUMIDITY	10 – 70 %	31 %
FORCE AT 0 DEG. FLEXION	-27 – 27 N	0 N
FORCE AT 20 DEG OF FLEXION	98 – 151 N	142.3 N
FORCE AT 30 DEG OF FLEXION	151 – 205 N	186.8 N
FORCE AT 40 DEG OF FLEXION	205 – 258 N	240.2 N
NET RETURN ANGLE AFTER 3 MINUTES	< 12 DEG.	7 Deg

TEST MEETS SPECIFICATIONS

TECHNICIAN



Transportation Research Center Inc.

572B Abdomen Compression Test

SID Serial No. 065 Calibration No. 03 - 1

Test Date 02/14/2003

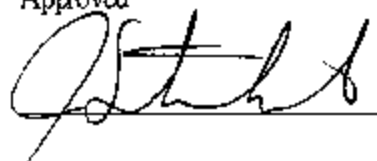
Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	35 %	Yes
Displacement Rate	6.35 - 8.89 mm/s	7.0 - 7.9 mm/s	Yes
Data Within Required Corridor	Yes	Yes	Yes

Comments:

Technician



Approved



02.18.2003 09:14:18 21

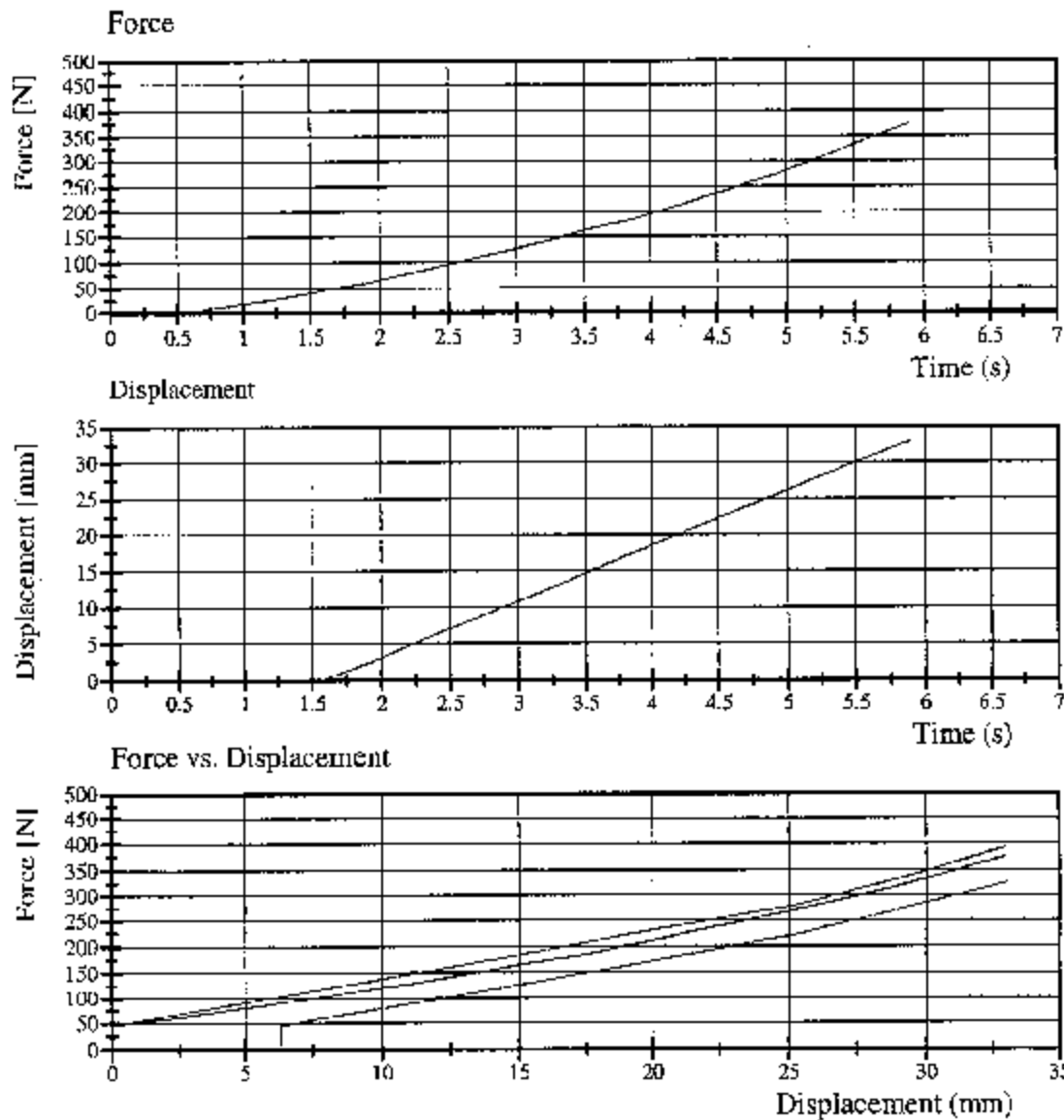


Transportation Research Center Inc.

572B Abdomen Compression Test

SID Serial No. 065 Calibration No. 03 - 1

Test Date 02/14/2003



02.18.2003 07:14:19 21



TRANSPORTATION RESEARCH CENTER INC.

LATERAL PELVIS IMPACT TEST

SIDE IMPACT DUMMY

14-FEB-03

RIGHT SIDE CONFIGURATION

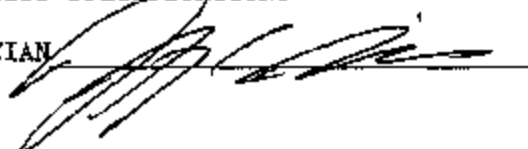
TRC INC.

TEST NO: SPR06503

572F SN065 RIGHT PELVIS CAL03

TEST PARAMETER	SPECIFICATION (ABSOLUTE VALUE)	TEST RESULTS
TEMPERATURE	18.9 - 25.5 C	21.7 DEG. C
RELATIVE HUMIDITY	10 - 70 %	30.0 %
PENDULUM VELOCITY	4.21 - 4.33 M/S	4.28 M/S
PEAK PELVIC ACCELERATION	40 - 60 G	-45.7 G
TIME ABOVE 20 G LEVEL	3 - 7 MS	6.3 MS
IS ACCELERATION CURVE UNIMODAL?	YES	YES

TEST MEETS SPECIFICATIONS

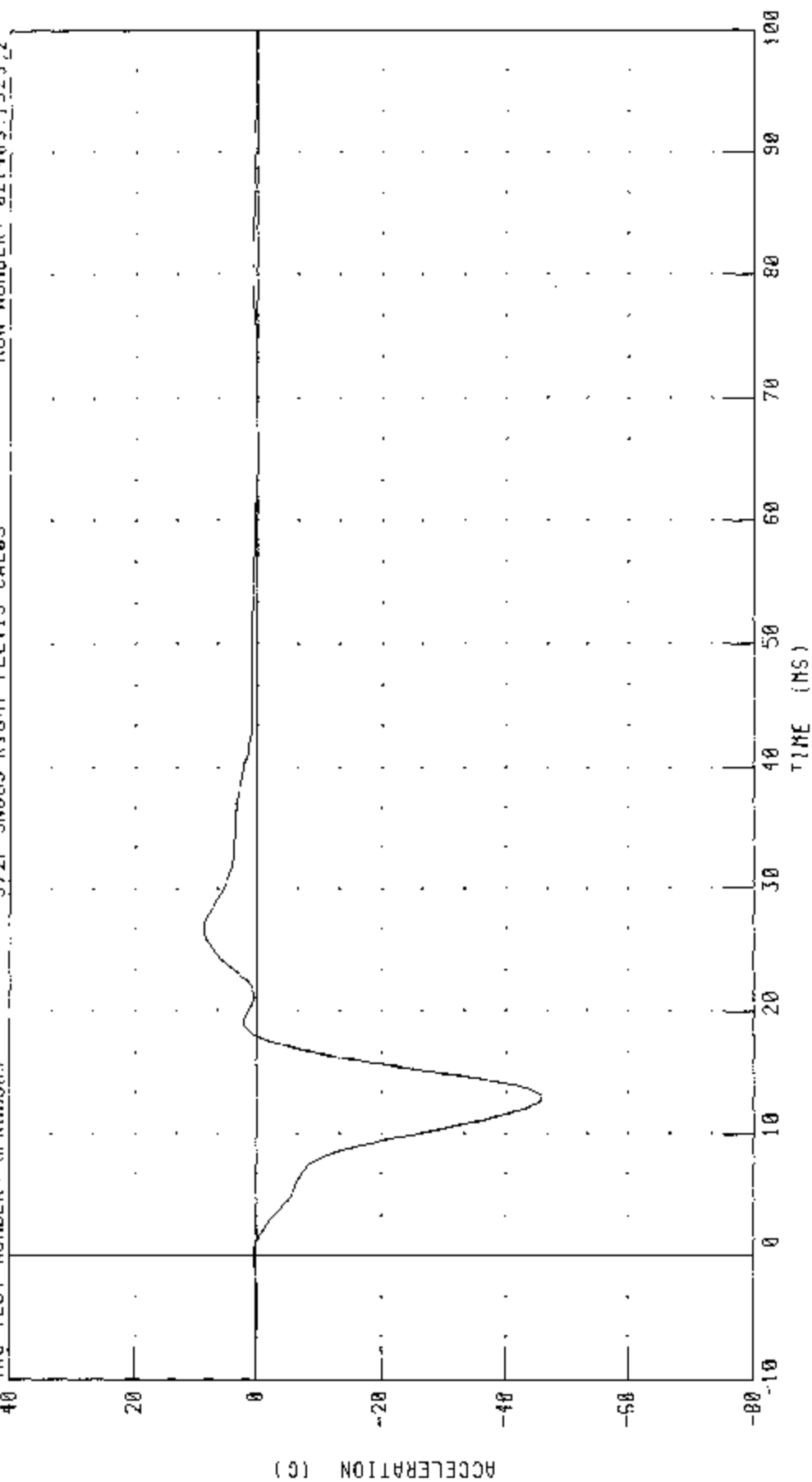
TECHNICIAN 

RUN NUMBER: 021403.1523;2

PART 572-F S.I.D. PELVIS CALIBRATION - (RIGHT SIDE IMPACT)

PELVIS ACCELERATION Y AXIS

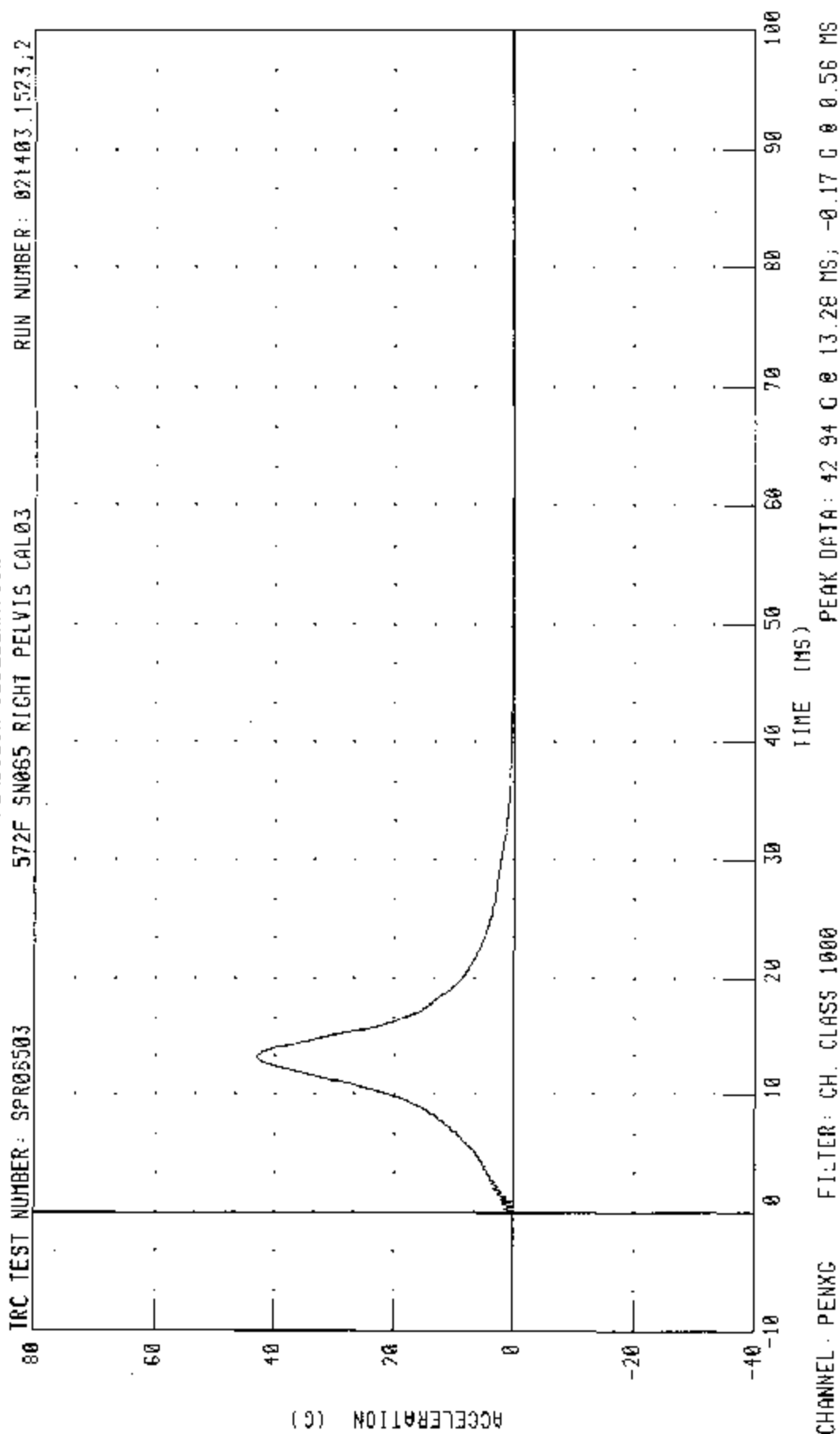
TRC TEST NUMBER: SPR06503 572F SN065 RIGHT PELVIS CAL03 RUN NUMBER: 021403.1525.2



CHANNEL: PEVYG FILTER: FIR 100

PEAK DATA 8.80 G @ 26.87 MS, -45.74 G @ 13.13 MS

PART 572-F S.I.D. PELVIS CALIBRATION - (RIGHT SIDE IMPACT)
 PENDULUM DECELERATION



Calibration Test Results

Post-Test

SID: 066

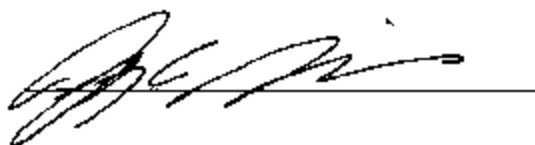
Configured for Right Side Impact

External Dimensions:	The dummy passed all external dimension requirements.
Lateral Thorax Impact Test:	The lateral thorax passed all impact test requirements.
Thoracic Shock Absorber Test:	The thoracic shock absorber was not tested at this time.
Lumbar Flexion Test:	The dummy met the lumbar flexion test requirements.
Abdominal Compression Test:	The abdomen met the compression test requirements.
Pelvis Impact Test:	The lateral pelvis passed all impact test requirements.

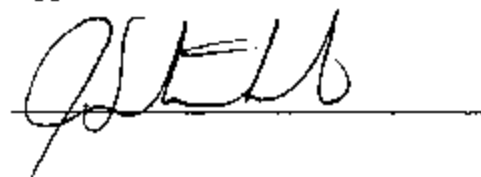
Transportation Research Center Inc.
572F SID Dummy
External Dimensions
Serial No. 066 Calibration No. 04

Test Parameter	Dimension	Specification	Results	Pass
Seated Height	SH	889.0 - 909.3 mm	895 mm	Yes
Rib Height	RH	501.7 - 520.7 mm	511 mm	Yes
Hip Pivot Height	HP	99.1 REF mm	99.1 mm	
Rib From Backline	RD	228.6 - 241.3 mm	237 mm	Yes
Knee Pivot From Backline	KH	510.5 - 525.8 mm	520 mm	Yes
Knee Pivot From Floor	KV	490.2 - 505.5 mm	499 mm	Yes
Hip Width	HW	355.6 - 391.2 mm	388 mm	Yes
Top Rib Width From CL	RW-1	165.1 - 180.3 mm	174 mm	Yes
Bottom Rib Width From CL	RW-2	165.1 - 180.3 mm	173 mm	Yes
Difference Between Top & Bottom Rib Width from CL		$\leq$ 2.5 mm	1.0 mm	Yes

Technician



Approved



TRE

TRANSPORTATION RESEARCH CENTER INC.

LATERAL THORAX IMPACT TEST

SIDE IMPACT DUMMY

28-FEB-03

RIGHT SIDE CONFIGURATION

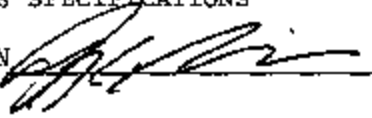
TRC INC.

TEST NO: STR06604

572F SID SN066 R.THORAX CAL04

TEST PARAMETER	SPECIFICATION (ABSOLUTE VALUE)	TEST RESULTS
TEMPERATURE	18.9 - 25.5 C	21.7 DEG. C
RELATIVE HUMIDITY	10 - 70 %	31.0 %
PENDULUM VELOCITY	4.21 - 4.33 M/S	4.28 M/S
PEAK ACCELERATION: UPPER RIB BAR	37 - 46 G	-41.1 G
PEAK ACCELERATION: LOWER RIB BAR	37 - 46 G	-39.5 G
PEAK ACCELERATION: LOWER THORACIC SPINE	15 - 22 G	-19.5 G

TEST MEETS SPECIFICATIONS

TECHNICIAN 

RUN NUMBER: 022803.0741;1

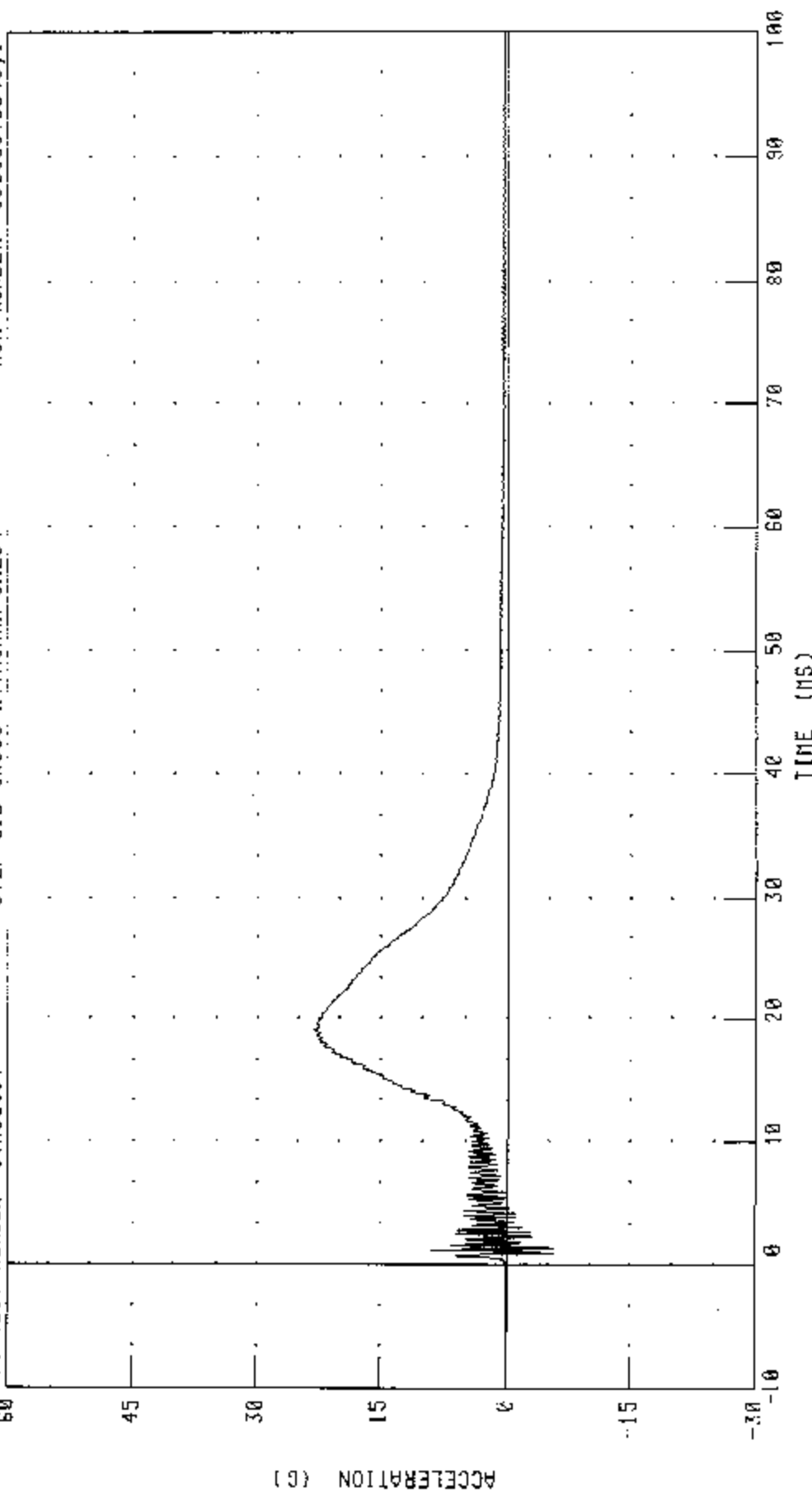
PART 572-F S.I.D THORAX CALIBRATION - (RIGHT SIDE IMPACT)

PENDULUM DECELERATION

TRC TEST NUMBER: STR06604

572F SID SN066 R THORAX CAL04

RUN NUMBER: 030303.0849.1



TIME (MS)

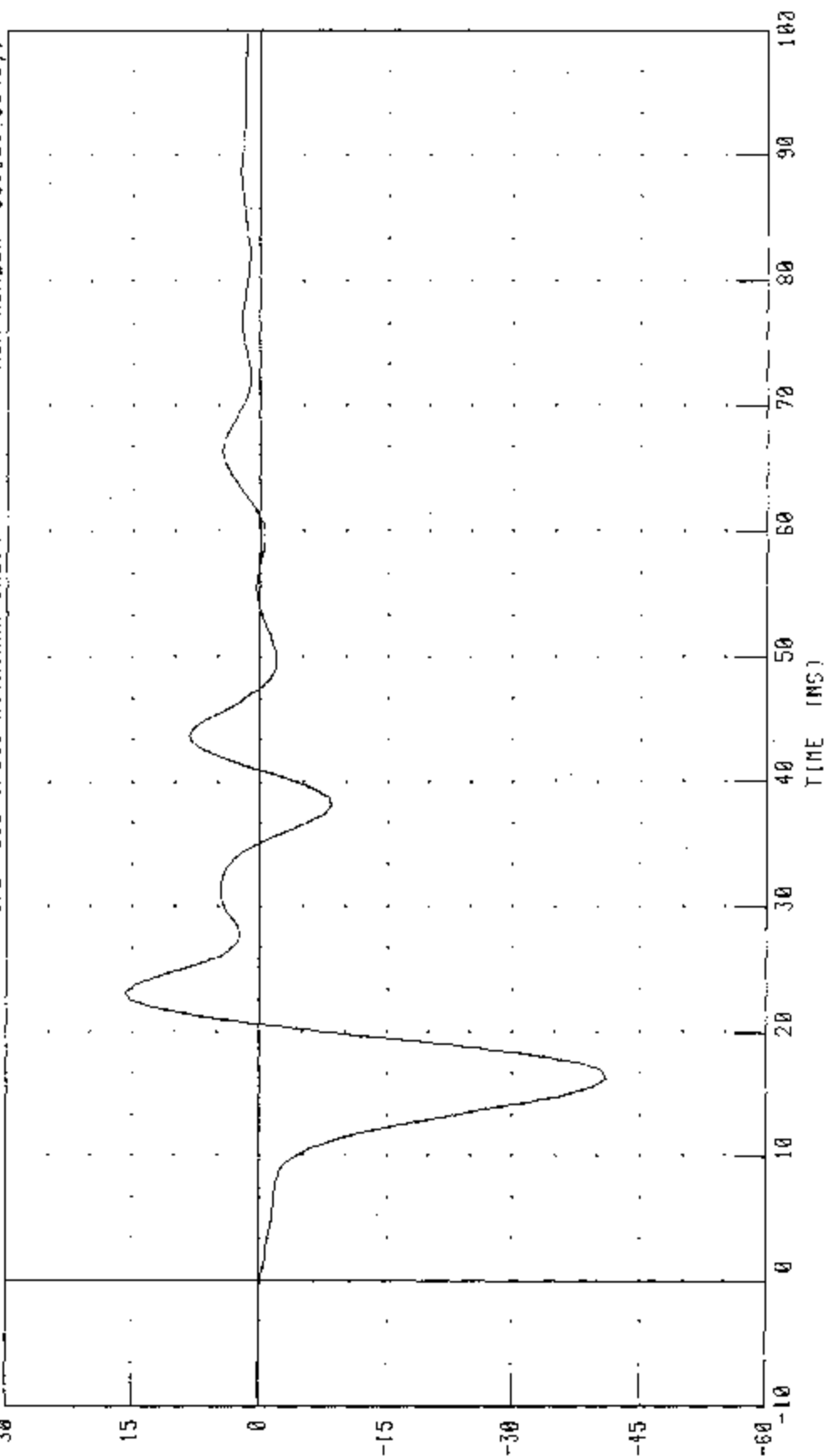
PEAK DATA: 23.06 C @ 19.12 MS; -5.72 C @ 1.29 MS

CHANNEL: PENXC FILTER: CH CLASS 1000

PART 572-F S.I.D. THORAX CALIBRATION - (RIGHT SIDE IMPACT)

RIGHT UPPER RIB ACCELERATION Y AXIS

TRC TEST NUMBER: STR06604 572F SIU SN066 R.IH06X CAL04 RUN NUMBER: 030303.0849;1



PEAK DATA 15.87 G @ 23.13 MS, -41.06 G @ 16.25 MS

CHANNEL: RURYC FILTER: FIR 100

ACCELERATION (G)

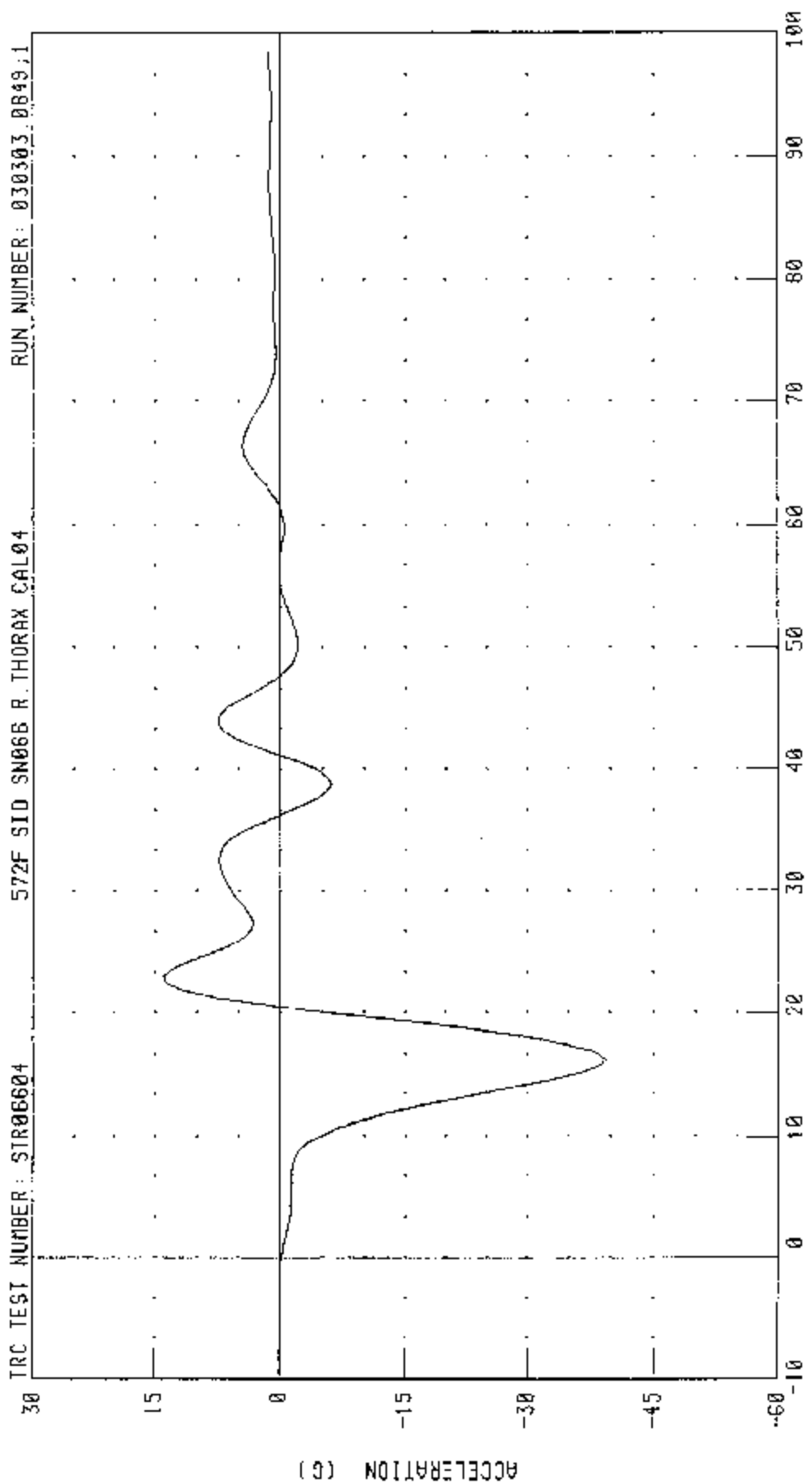
PART 572-F S.I.D THORAX CALIBRATION - (RIGHT SIDE IMPACT)

RIGHT LOWER RIB ACCELERATION Y AXIS

TRC TEST NUMBER: STR06604

572F SID SN066 R THORAX CAL04

RUN NUMBER: 030303 DB49;1



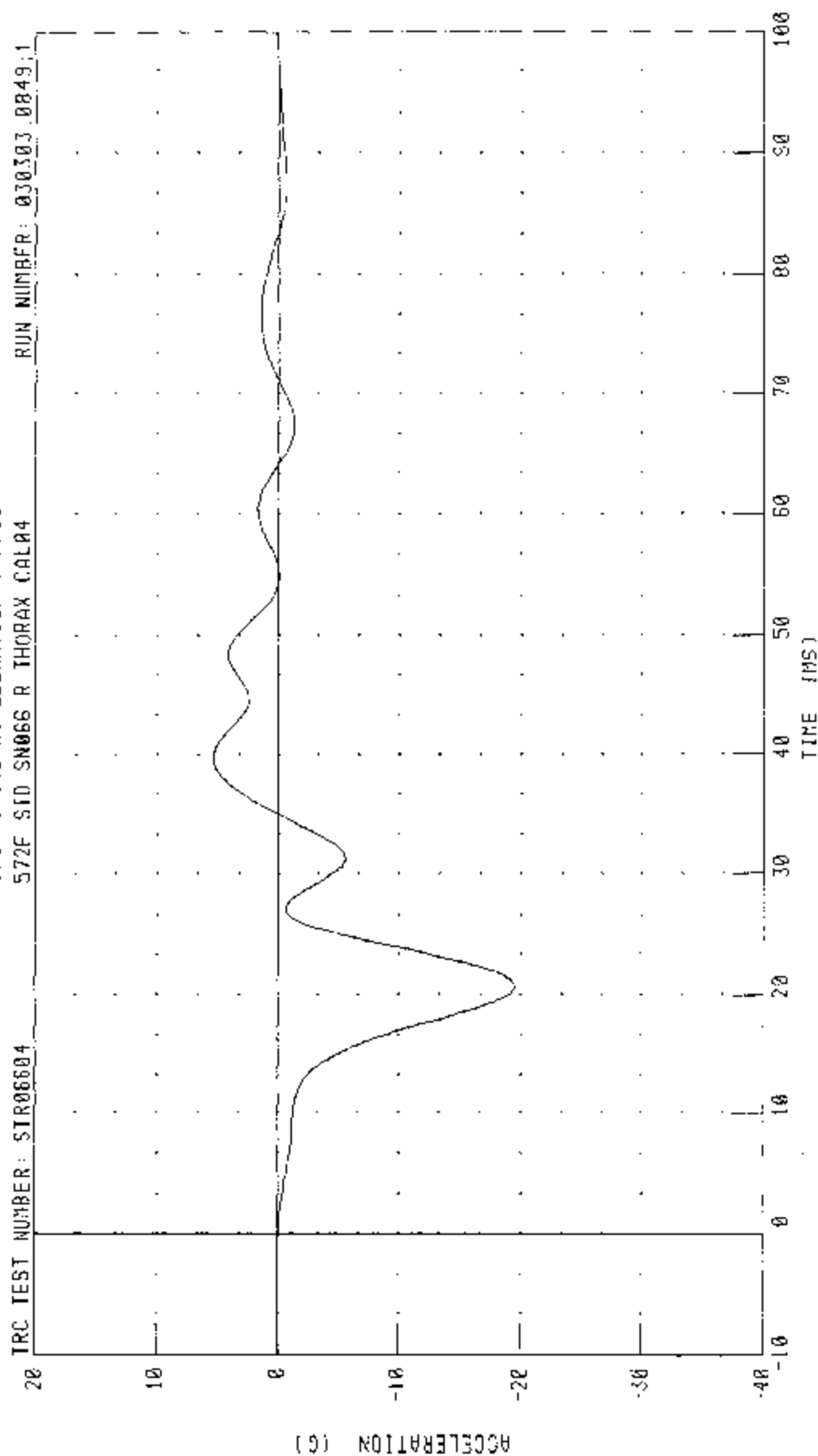
TIME (MS)

CHANNEL: RLRYG FILTER: FIR 100

PEAK DATA: 13 90 G @ 23 13 MS, -39.46 G @ 16.25 MS

PART 572-F S I.O. THORAX CALIBRATION - (RIGHT SIDE IMPACT)

LOWER SPINE ACCELERATION Y AXIS



PEAK DATA: 5.41 G @ 40.00 MS, -19.55 G @ 20.62 MS

CHANNEL: 112YG FILTER: FIR 100

Transportation Research Center Inc.

572B Abdomen Compression Test

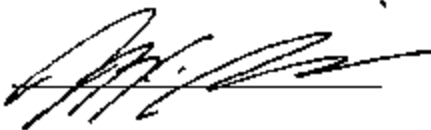
SID Serial No. 066 Calibration No. 04 - I

Test Date 02/28/2003

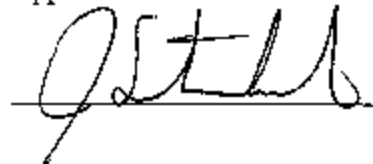
Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	30 %	Yes
Displacement Rate	6.35 - 8.89 mm/s	6.8 - 7.9 mm/s	Yes
Data Within Required Corridor	Yes	Yes	Yes

Comments:

Technician



Approved



02.28.2003 11:11:11 45

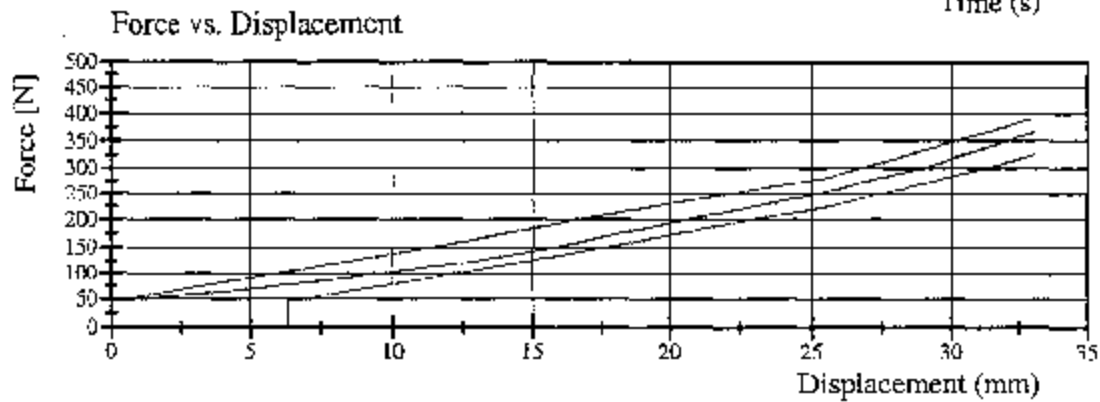
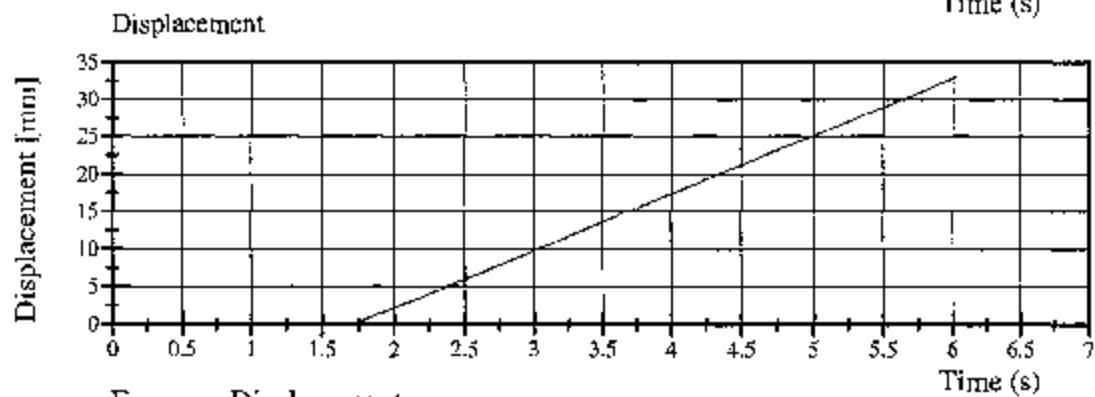
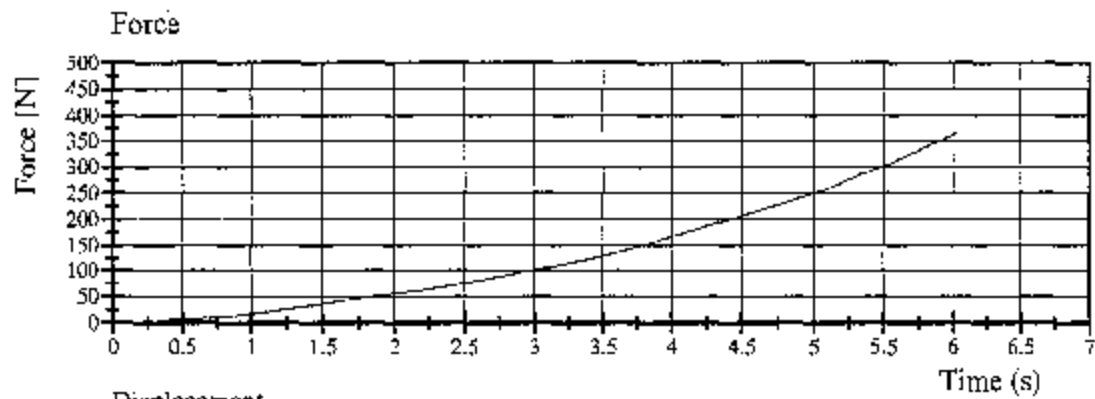
TRE

Transportation Research Center Inc.

572B Abdomen Compression Test

SJD Serial No. 066 Calibration No. 04 - 1

Test Date 02/28/2003



TRANSPORTATION RESEARCH CENTER INC.

LUMBAR FLEXION TEST

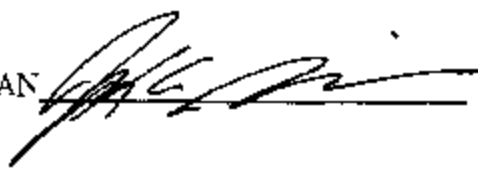
SID PART 572B

CAL DATE: 27-Feb-03

TRC, INC. TEST NO: 066C04TF1 572B SN 066 TORSO FLEX CAL 04

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9 - 25.6° C	21.1 °C
RELATIVE HUMIDITY	10 - 70 %	31 %
FORCE AT 0 DEG. FLEXION	-27 - 27 N	0 N
FORCE AT 20 DEG OF FLEXION	98 - 151 N	120.1 N
FORCE AT 30 DEG OF FLEXION	151 - 205 N	169.0 N
FORCE AT 40 DEG OF FLEXION	205 - 258 N	226.9 N
NET RETURN ANGLE AFTER 3 MINUTES	< 12 °	6 °

TEST MEETS SPECIFICATIONS

TECHNICIAN 

TRANSPORTATION RESEARCH CENTER INC.

LATERAL PELVIS IMPACT TEST

SIDE IMPACT DUMMY

28-FEB-03

RIGHT SIDE CONFIGURATION

TRC INC.

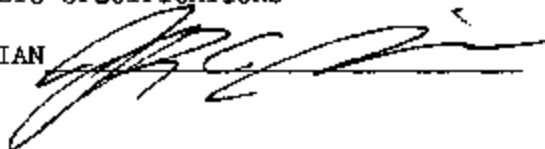
TEST NO: SPR06604

572F SN066 RIGHT PELVIS CAL066

TEST PARAMETER	SPECIFICATION (ABSOLUTE VALUE)	TEST RESULTS
TEMPERATURE	18.9 - 25.5 C	21.7 DEG. C
RELATIVE HUMIDITY	10 - 70 %	30.0 %
PENDULUM VELOCITY	4.21 - 4.33 M/S	4.28 M/S
PEAK PELVIC ACCELERATION	40 - 60 G	-40.1 G
TIME ABOVE 20 G LEVEL	3 - 7 MS	6.3 MS
IS ACCELERATION CURVE UNIMODAL?	YES	YES

TEST MEETS SPECIFICATIONS

TECHNICIAN



RUN NUMBER: 022803.0738;1

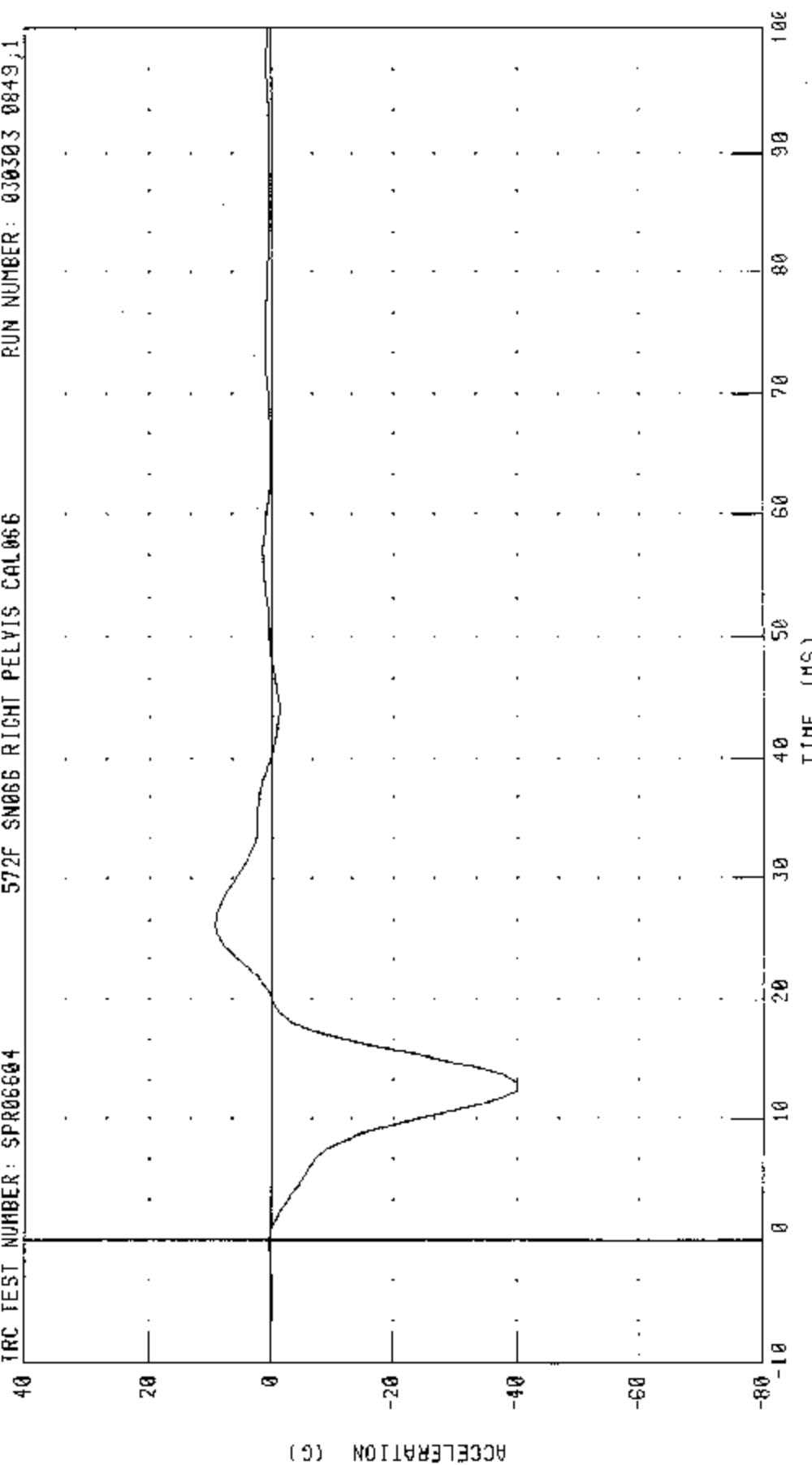
PART 572-F S.I.D. PELVIS CALIBRATION - (RIGHT SIDE IMPACT)

PELVIS ACCELERATION Y AXIS

RUN NUMBER: 030303 0849,1

1RC TEST NUMBER: SPR06604

572F SN066 RIGHT PELVIS CAL066



PEAK DATA: 9 41 6 0 26 25 MS; -40 12 0 13 13 MS

CHANNEL: PEVYG FILTER: FIR 100

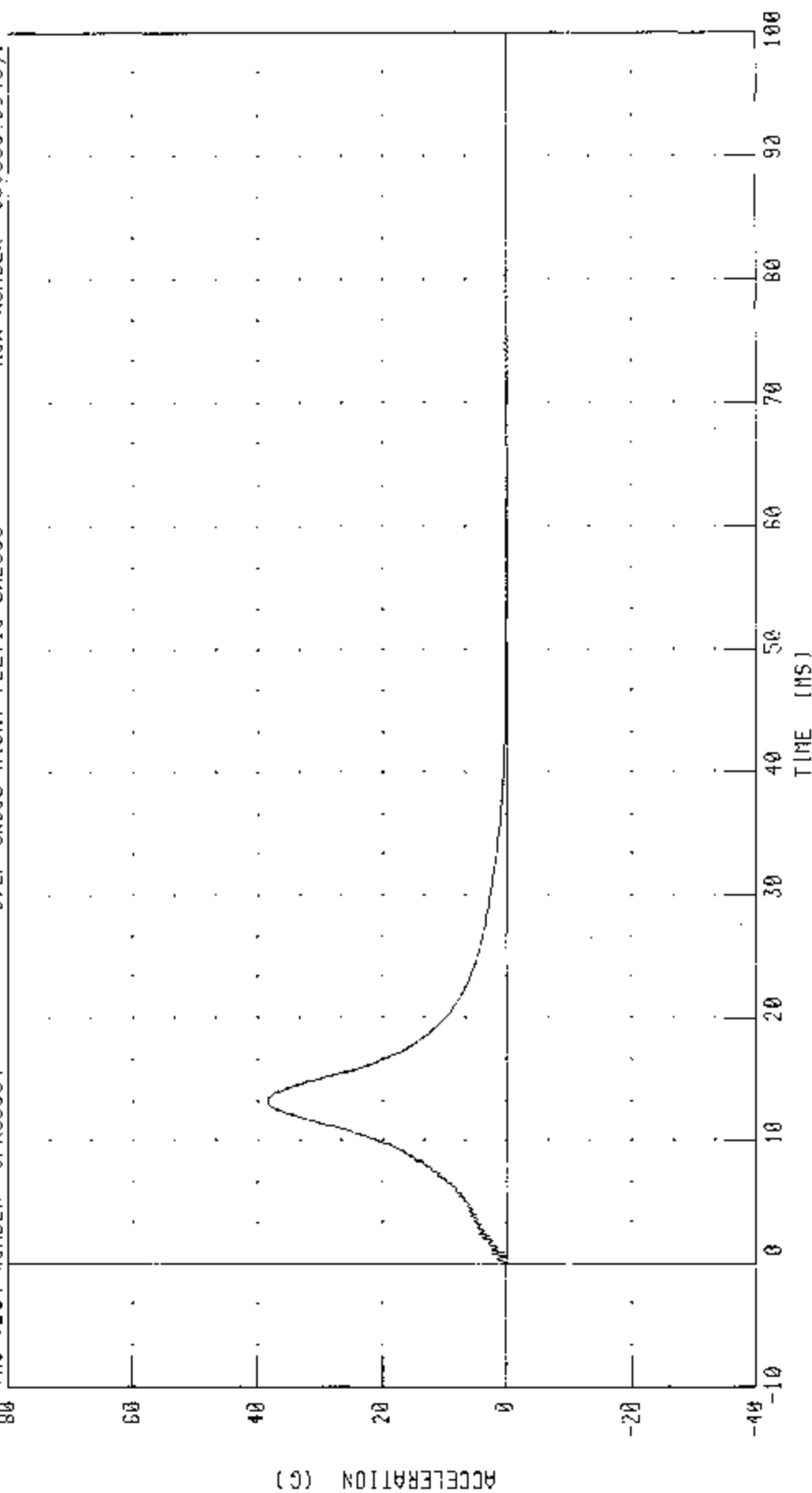
PART 572-F S.I.D. PELVIS CALIBRATION - (RIGHT SIDE IMPACT)

PENDULUM DECELERATION

TRC TEST NUMBER: SPR06604

572F SN555 RIGHT PELVIS CAL066

RUN NUMBER 030303.0849.1



CHANNEL PENXG FILTER CH CLASS 1000

PEAK DATA: 39.40 G @ 13.44 MS, -0.25 G @ 0.64 MS

Calibration Test Results

Post-Test

SID: 065

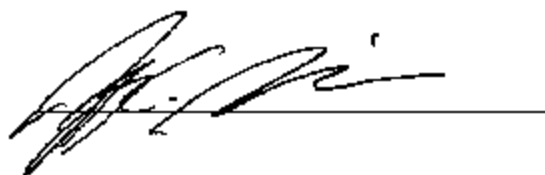
Configured for Right Side Impact

External Dimensions:	The dummy passed all external dimension requirements.
Lateral Thorax Impact Test:	The lateral thorax passed all impact test requirements.
Thoracic Shock Absorber Test:	The thoracic shock was not tested at this time.
Lumbar Flexion Test:	The dummy met the lumbar flexion test requirements.
Abdominal Compression Test:	The abdomen met the compression test requirements.
Pelvis Impact Test:	The lateral pelvis passed all impact test requirements.

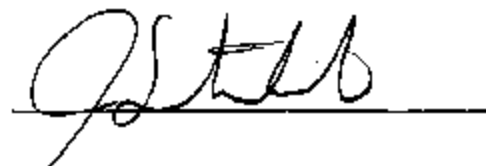
Transportation Research Center Inc.
572F SID Dummy
External Dimensions
Serial No. 065 Calibration No. 04

Test Parameter	Dimension	Specification	Results	Pass
Seated Height	SH	889.0 - 909.3 mm	892 mm	Yes
Rib Height	RH	501.7 - 520.7 mm	511 mm	Yes
Hip Pivot Height	HP	99.1 REF mm	99.1 mm	
Rib From Backline	RD	228.6 - 241.3 mm	236 mm	Yes
Knee Pivot From Backline	KH	510.5 - 525.8 mm	514 mm	Yes
Knee Pivot From Floor	KV	490.2 - 505.5 mm	501 mm	Yes
Hip Width	HW	355.6 - 391.2 mm	373 mm	Yes
Top Rib Width From C/L	RW-1	165.1 - 180.3 mm	170 mm	Yes
Bottom Rib Width From C/L	RW-2	165.1 - 180.3 mm	171 mm	Yes
Difference Between Top & Bottom Rib Width from C/L		<= 2.5 mm	1.0 mm	Yes

Technician



Approved




TRANSPORTATION RESEARCH CENTER INC.

LATERAL THORAX IMPACT TEST

SIDE IMPACT DUMMY

24-FEB-03

RIGHT SIDE CONFIGURATION

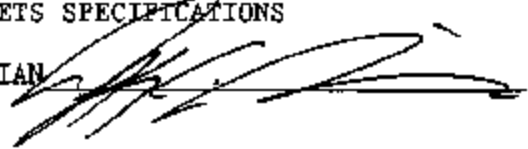
TRC INC.

TEST NO: STRO6504

572F SID SN065 R.THORAX CAL04

TEST PARAMETER	SPECIFICATION (ABSOLUTE VALUE)	TEST RESULTS
TEMPERATURE	18.9 - 25.5 C	21.7 DEG. C
RELATIVE HUMIDITY	10 - 70 %	31.0 %
PENDULUM VELOCITY	4.21 - 4.33 M/S	4.28 M/S
PEAK ACCELERATION: UPPER RIB BAR	37 - 46 G	-40.7 G
PEAK ACCELERATION: LOWER RIB BAR	37 - 46 G	-38.5 G
PEAK ACCELERATION: LOWER THORACIC SPINE	15 - 22 G	-19.2 G

TEST MEETS SPECIFICATIONS

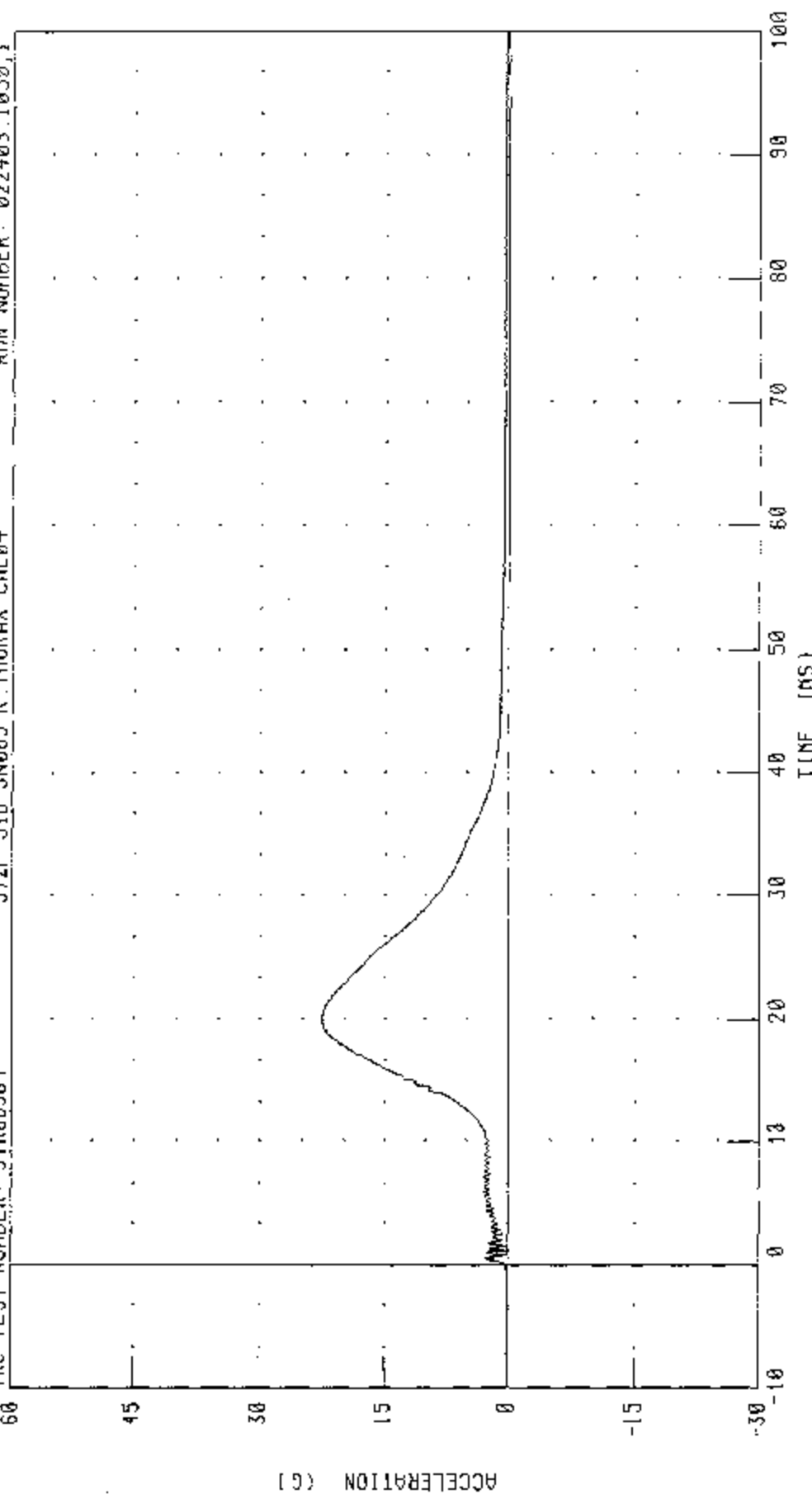
TECHNICIAN 

RUN NUMBER: 030303.1249;1

PARI 572-+ S.J.D. THORAX CALIBRATION - (RIGHT SIDE IMPACT)

PENDULUM DECELERATION

TRC TEST NUMBER: STR06504 572F SID SN065 R THORAX CAL04 RUN NUMBER: 022403.1050.1



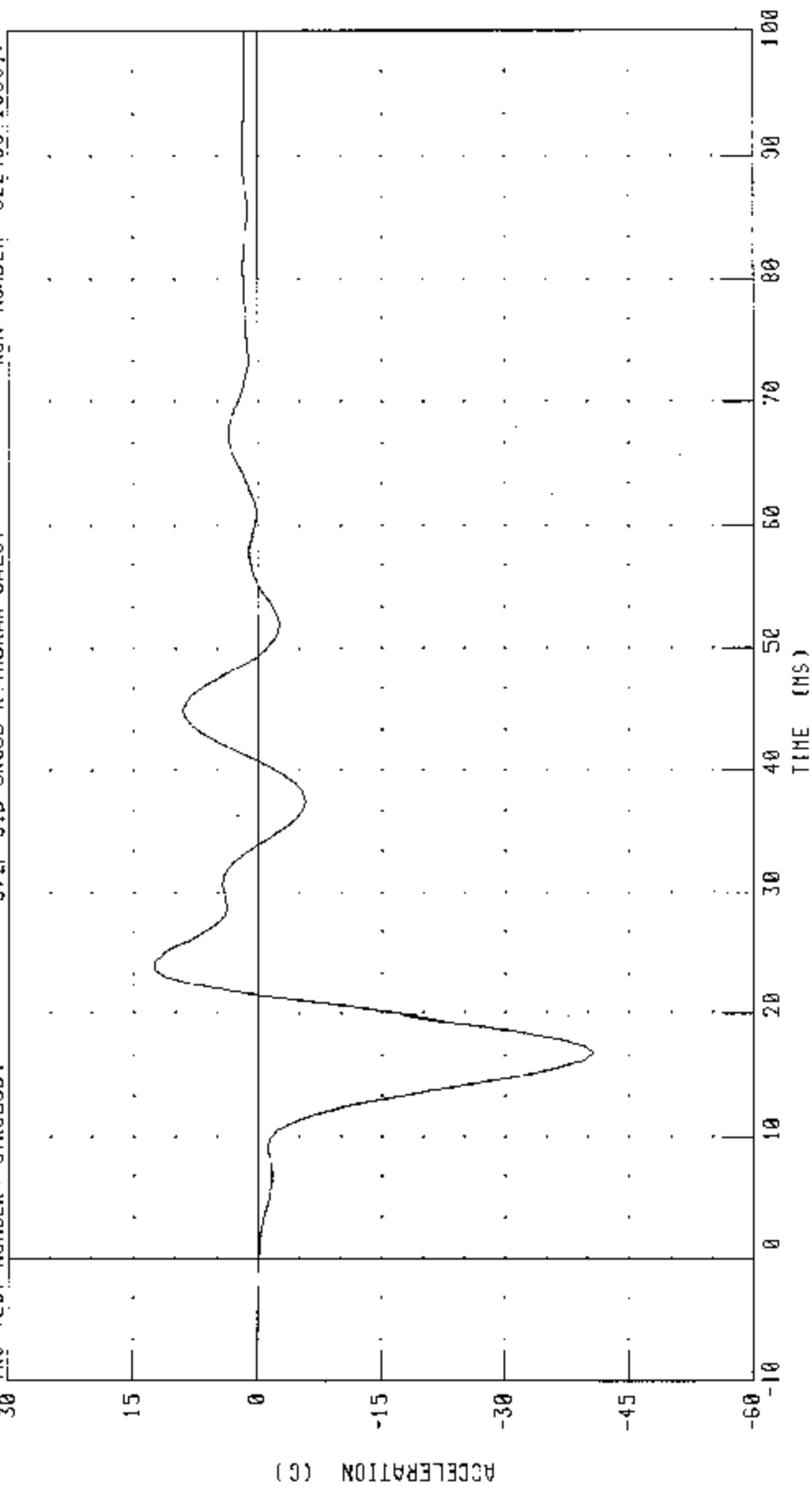
CHANNEL: PENXC FILTER: CH. CLASS 1000

PEAK DATA: 22.78 G @ 20.16 MS; -0.13 G @ 1.20 MS

PART 572-F S I.D THORAX CALIBRATION - (RIGHT SIDE IMPACT)

RIGHT UPPER RIB ACCELERATION Y AXIS

TRC TEST NUMBER: STR06504 572F SID SN065 R THORAX CAL04 RUN NUMBER: 022403.1050.1



CHANNEL: RURYC FILTER: FIR 100

PEAK DATA: 12 53 G @ 23.75 MS; -40.66 G @ 16.87 MS

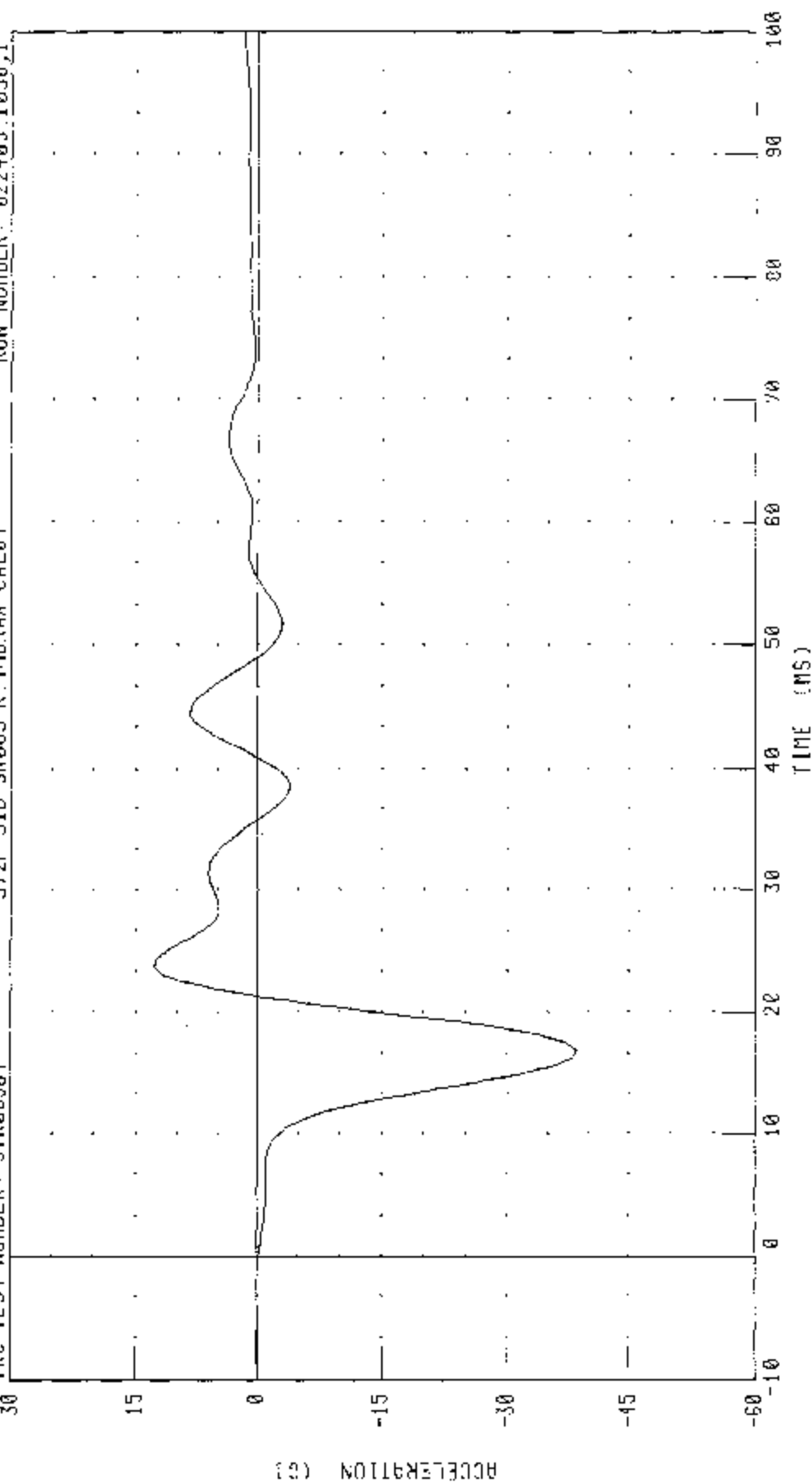
PART 572 F S.J.D. THORAX CALIBRATION - (RIGHT SIDE IMPACT)

RIGHT LOWER RIB ACCELERATION Y AXIS

RUN NUMBER: 022403.1050.1

TRC TEST NUMBER: STR06504

572F SID SN065 R THORAX CAL04



CHANNEL: RLRYC FILTER: FIR 100

PEAK DATA: 12.82 G @ 23.75 MS, -38.50 G @ 16.87 MS

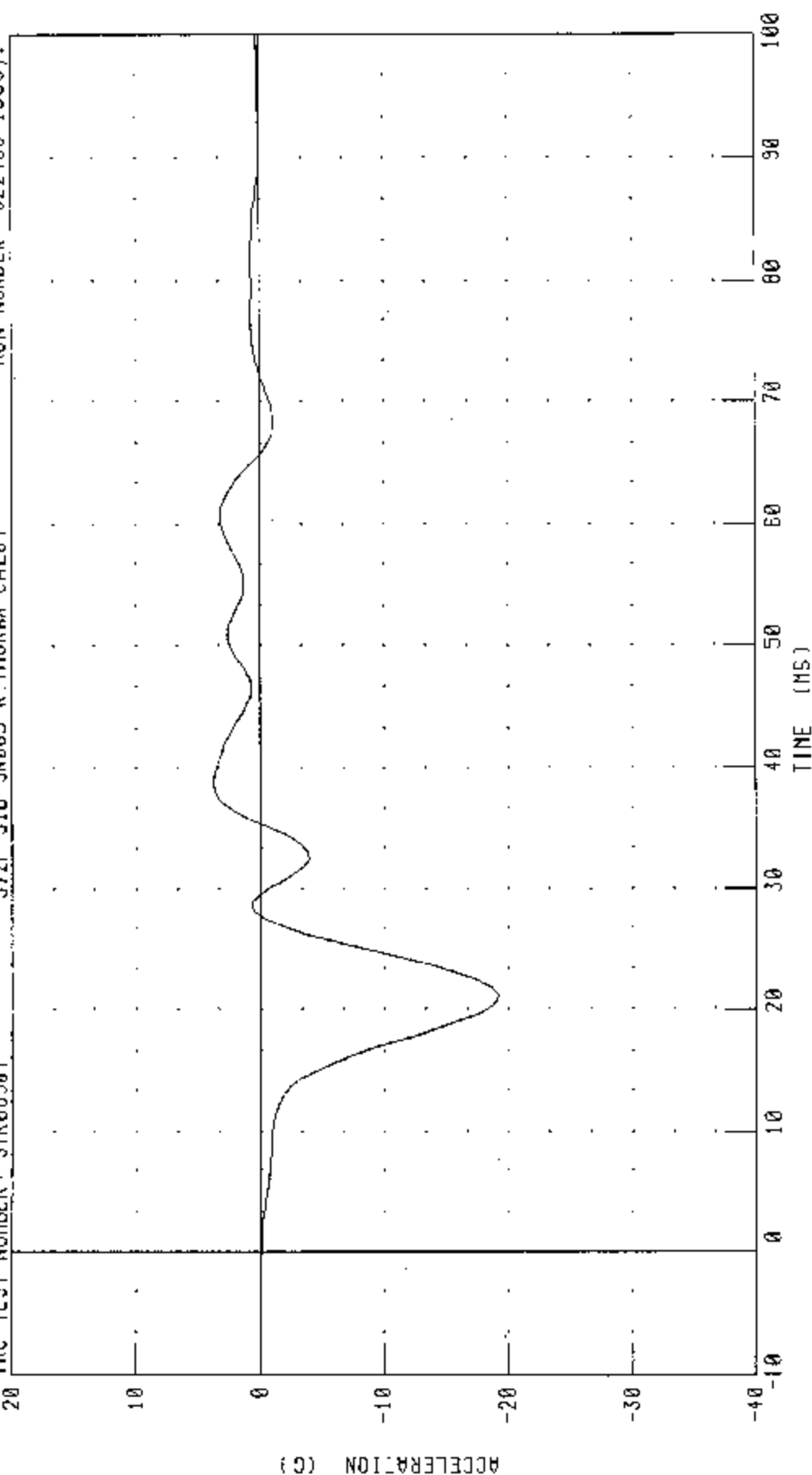
PART 572-F S.I.D. THORAX CALIBRATION - (RIGHT SIDE IMPACT)

LOWER SPINE ACCELERATION Y AXIS

TRC TEST NUMBER: STR00504

572F SID SN065 R THORAX CAL04

RUN NUMBER: 022403 1050;1



CHANNEL: T12YC

FILTER: FIR 100

PEAK DATA: 3.74 G @ 38.75 MS, -19.16 G @ 21.25 MS

Transportation Research Center Inc.

572B Abdomen Compression Test

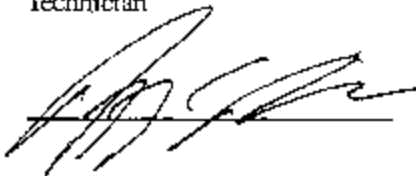
SID Serial No. 065 Calibration No. 04 - 1

Test Date 02/27/2003

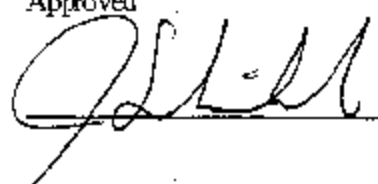
Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	31 %	Yes
Displacement Rate	6.35 - 8.89 mm/s	7.1 - 8.0 mm/s	Yes
Data Within Required Corridor	Yes	Yes	Yes

Comments:

Technician



Approved

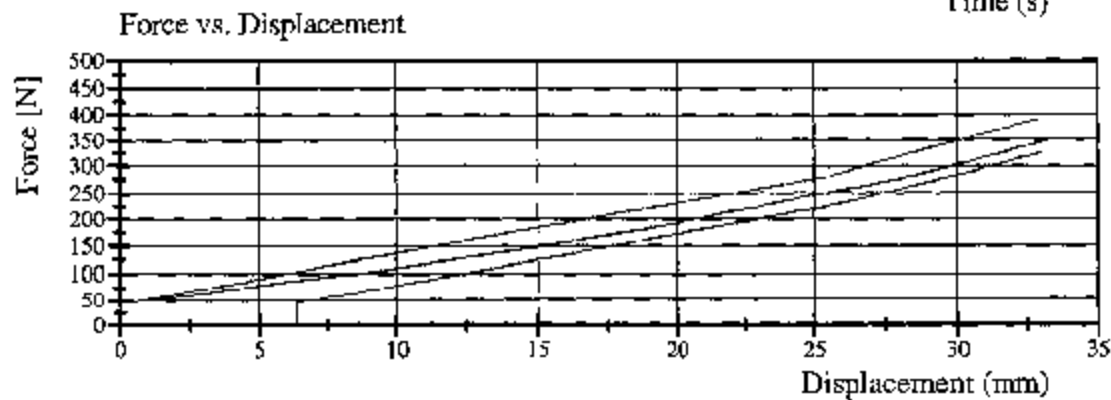
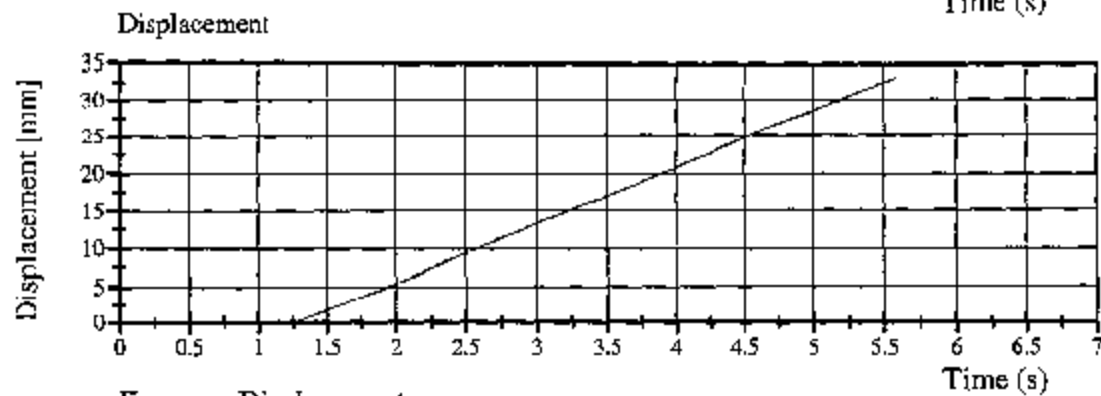
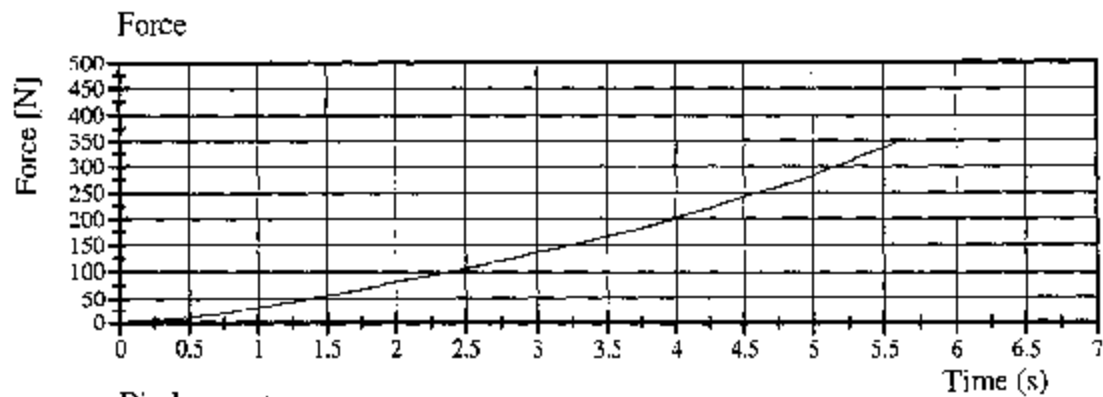


Transportation Research Center Inc.

572B Abdomen Compression Test

SID Serial No. 065 Calibration No. 04 - 1

Test Date 02/27/2003



TRANSPORTATION RESEARCH CENTER INC.

LUMBAR FLEXION TEST

SID PART 572B

CAL DATE: 27-Feb-03

TRC, INC.

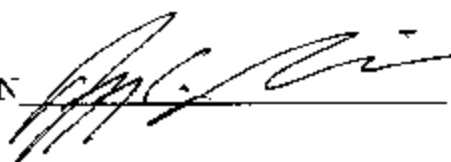
TEST NO: 065C04TF1

572B SN 065 TORSO FLEX CAL 04

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9 - 25.6° C	21.1 °C
RELATIVE HUMIDITY	10 - 70 %	30 %
FORCE AT 0 DEG. FLEXION	-27 - 27 N	0 N
FORCE AT 20 DEG OF FLEXION	98 - 151 N	111.2 N
FORCE AT 30 DEG OF FLEXION	151 - 205 N	177.9 N
FORCE AT 40 DEG OF FLEXION	205 - 258 N	218.0 N
NET RETURN ANGLE AFTER 3 MINUTES	< 12 °	6 °

TEST MEETS SPECIFICATIONS

TECHNICIAN



TRANSPORTATION RESEARCH CENTER INC.

LATERAL PELVIS IMPACT TEST

SIDE IMPACT DUMMY

24-FEB-03

RIGHT SIDE CONFIGURATION

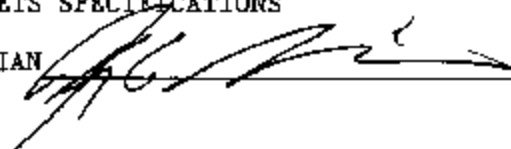
TRC INC.

TEST NO: SPR06504

572F SN065 RIGHT PELVIS CAL04

TEST PARAMETER	SPECIFICATION (ABSOLUTE VALUE)	TEST RESULTS
TEMPERATURE	18.9 - 25.5 C	21.7 DEG. C
RELATIVE HUMIDITY	10 - 70 %	31.0 %
PENDULUM VELOCITY	4.21 - 4.33 M/S	4.28 M/S
PEAK PELVIC ACCELERATION	40 - 60 G	-45.1 G
TIME ABOVE 20 G LEVEL	3 - 7 MS	6.3 MS
IS ACCELERATION CURVE UNIMODAL?	YES	YES

TEST MEETS SPECIFICATIONS

TECHNICIAN 

RUN NUMBER: 030303.1249;1

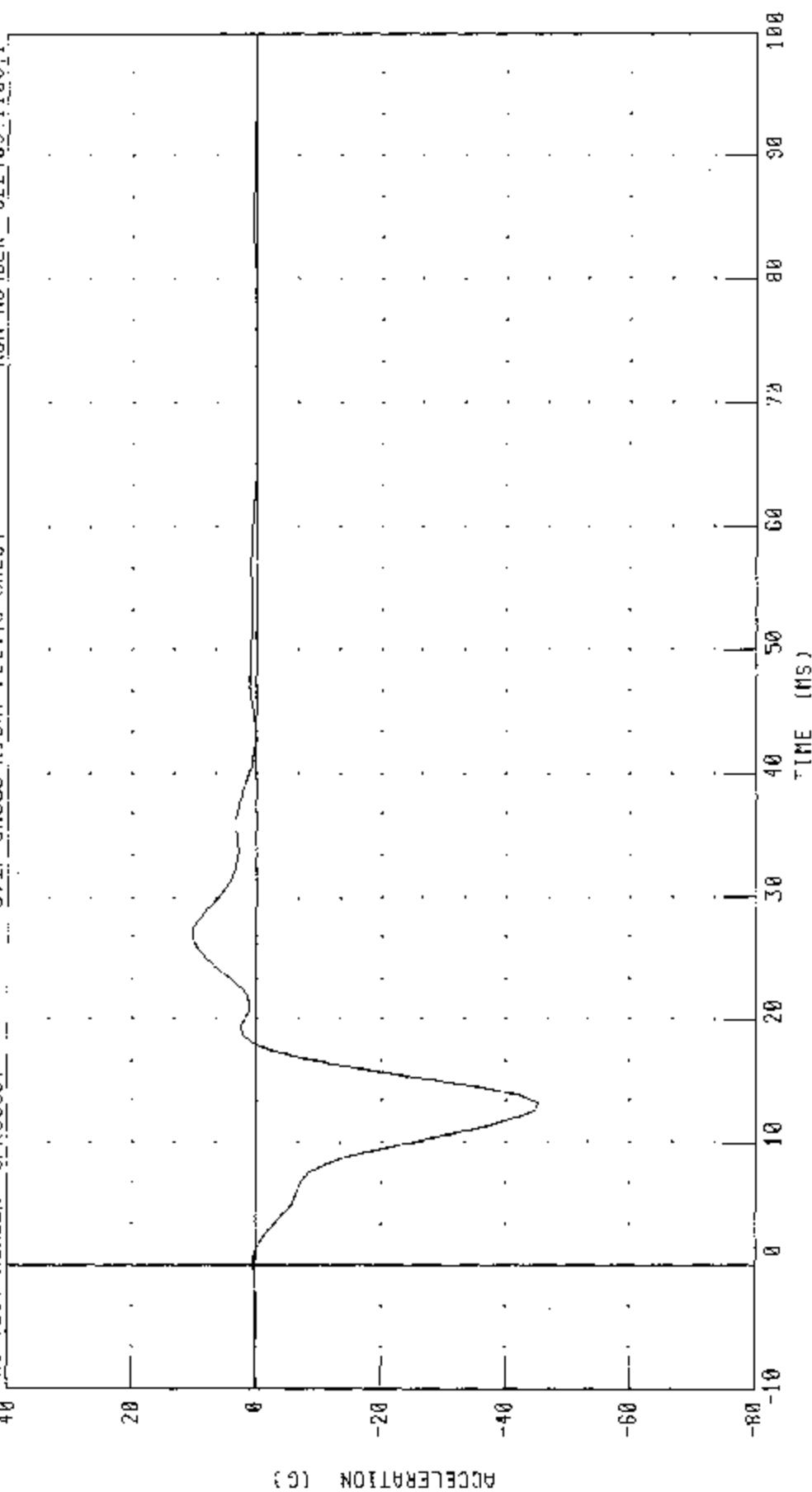
PART 572-F S.I.D. PELVIS CALIBRATION - (RIGHT SIDE IMPACT)

PELVIS ACCELERATION Y AXIS

TRC TEST NUMBER: SPR06504

572F SN065 RIG:IT PELVIS CAL04

RUN NUMBER: 022403.1100.1

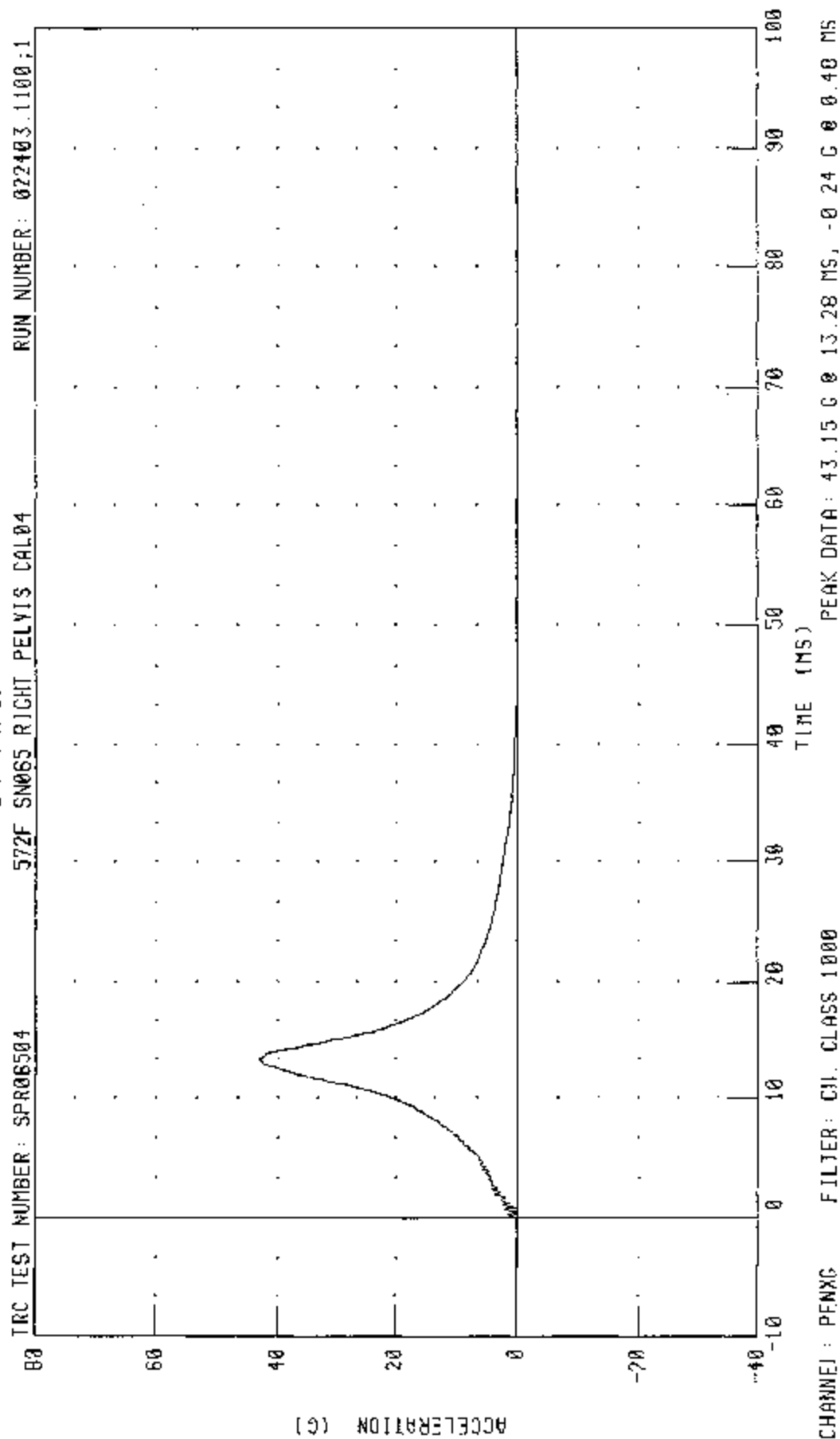


CHANNEL PEVYC FILTER: FIR 100

PEAK DATA 10 49 G @ 26 87 MS, -45 09 G @ 13.13 MS

PART 572-F S.I.D. PELVIS CALIBRATION - (RIGHT SIDE IMPACT)

PENDULUM DECELERATION



Transportation Research Center Inc.

SID Pre-Use Inspection

Type: DOT SID S/N: 066

Mfr: Denton

Test Date: 02/18/03

Proj./Seg. No.: 20020455/0110

Test Eng.: Virginia Watters

ITEM	PRE-USE	
HEAD:		
Head Ballast Condition		
Accel. Mount Bolts and Cables		
Skull Cap Bolts	X	
Head Skin Condition		
Accel. Cable Exit (left or right)	(Left) X	(Right)
NECK:		
Rubber Condition and Separation From End Caps	X	
THORAX:		
Stacked Shoulder Foams and Bolts	X	
* Rib Cage Spring and Support Assembly	X	
* Rib Cage Bolts	X	
* Damper Rear Attachment Ring, Pivot Pins, and Bracket	X	
* Location and Adjustment of Chest Pot Bracket and Collars	X	
* Chest Pot Rod End Nuts and Eyebolt	X	
Arm Foam Orientation	X	
Thorax/Lumbar Spine Bolts	X	
PELVIS:		
Tightness and Alignment of H-Point Tool Insert	X	
* Hips Range of Motion and 1-2g Adjustment (before calibration only)	X	
Upper Femur Bolt Adjustment and Position	X	
Check Spine Kits (Yellow tape = Kits/No tape = No kits)	(With) X	(Without)
LEGS AND FEET:	X	
Femur Load Cell Bolts (40 ft/lbs)	X	
Breakaway Femur Bolts (5-6 ft/lbs)	X	
Knee Joint Function and Range of Motion	X	
Leg Skin Condition and Position	X	
Ankle Range of Motion	X	
Foot Condition	X	
OTHER:		
Cleanliness	X	
Target Position	X	
Clothes Pink	X	
Shoes	X	
Knee & Ankle One G Joint Adjustments	X	

Inspection Completed By: John Clarridge

Date: 02/18/03

Transportation Research Center Inc.

SID Pre-Use Inspection

Type: DOT SID S/N: 065

Mfr: Denton

Test Date: 02/18/03

Proj./Seg. No.: 20020455/0110

Test Eng.: Virginia Watters

ITEM	PRE-USE	
HEAD:		
Head Ballast Condition	X	
Accel. Mount Bolts and Cables	X	
Skull Cap Bolts	X	
Head Skin Condition	X	
Accel. Cable Exit (left or right)	(Left) X	(Right)
NECK:		
Rubber Condition and Separation From End Caps	X	
THORAX:		
Stacked Shoulder Foams and Bolts	X	
* Rib Cage Spring and Support Assembly	X	
* Rib Cage Bolts	X	
* Damper Rear Attachment Ring, Pivot Pins, and Bracket	X	
* Location and Adjustment of Chest Pot Bracket and Collars	X	
* Chest Pot Rod End Nuts and Eyebolt	X	
Arm Foam Orientation	X	
Thorax/Lumbar Spine Bolts	X	
PELVIS:		
Tightness and Alignment of H-Point Tool Insert	X	
* Hips Range of Motion and 1-2g Adjustment (before calibration only)	X	
Upper Femur Bolt Adjustment and Position	X	
Check Spine Kits (Yellow tape = Kits/No tape = No kits)	(With) X	(Without)
LEGS AND FEET:		
Femur Load Cell Bolts (40 ft/lbs)	X	
Breakaway Femur Bolts (5-6 ft/lbs)	X	
Knee Joint Function and Range of Motion	X	
Leg Skin Condition and Position	X	
Ankle Range of Motion	X	
Foot Condition	X	
OTHER:		
Cleanliness	X	
Target Position	X	
Clothes Pink	X	
Shoes	X	
Knee & Ankle One G Joint Adjustments	X	

Inspection Completed By: John Clarridge

Date: 02/18/03

TRANSPORTATION RESEARCH CENTER INC.

SID Post-Use Inspection

S/N: DOT 066Mfg: DentonTest Date: 02/18/03Proj./Seg. No.: 20020455/0110Test Eng.: Virginia Walters

ITEM	POST-USE
HEAD: Right Front Passenger	
Head Skin Condition	X
Head Ballast Condition	X
NECK:	
Rubber Condition and Separation From End Caps	X
THORAX:	
Jacket Condition	X
Arm Foam Condition	X
Damper and Chest Pot Movement and Condition	X
Rib Cage Spring and Support Assembly Condition	X
Rib Wrap Condition	X
Abdomen condition	X
Thorax/Lumbar Spine Bolts	X
Lumbar Spine Condition and Separation From End Caps	X
PELVIS:	
Iliac Crest bone	X
Flesh Condition	X
Hip Range of Motion	X
LEGS AND FEET:	
Knee Skins and Castings Condition	X
Leg Skin Condition	X
Foot Condition	X
Knee Joint Range of Motion	X
Ankle Range of Motion	X

NOTES: No damage to report.Inspection Completed By: John ClaridgeDate: 2/18/03

TRANSPORTATION RESEARCH CENTER INC.

SID Post-Use Inspection

S/N: DOT 065Mfg: DentonTest Date: 02/18/03Proj./Seg. No.: 20020455/0110Test Eng.: Virginia Waters

ITEM	POST-USE
HEAD: Right Rear Passenger	
Head Skin Condition	X
Head Ballast Condition	X
NECK:	
Rubber Condition and Separation From End Caps	X
THORAX:	
Jacket Condition	X
Arm Foam Condition	X
Damper and Chest Pot Movement and Condition	X
Rib Cage Spring and Support Assembly Condition	X
Rib Wrap Condition	X
Abdomen condition	X
Thorax/Lumbar Spine Bolts	X
Lumbar Spine Condition and Separation From End Caps	X
PELVIS:	
Iliac Crest bone	X
Flesh Condition	X
Hip Range of Motion	X
LEGS AND FEET:	
Knee Skins and Castings Condition	X
Leg Skin Condition	X
Foot Condition	X
Knee Joint Range of Motion	X
Ankle Range of Motion	X

NOTES: No damage to report.

Inspection Completed By: John ClarridgeDate: 2/18/03

Appendix D

Test Equipment List and Calibration Information

Sign Convention
SAE J211 MAR95

Accelerometers:

+X: Forward
+Y: Rightward
+Z: Downward

Potentiometers:

+Chest longitudinal deflection: Outward
+Chest lateral deflection: Rightward
+Seat belt displacement: Outward
+Seat belt extension: Elongation
+Knee slider displacement: Distance between femur and tibia
increased (in relation to a seated
dummy)

Rotation potentiometers:

+About the X-axis: Left foot-eversion
Right foot-inversion
+About the Y-axis: Left/right foot-dorsiflexion
+About the Z-axis: Left foot-internal
Right foot-external

Load cells:

+Femur force: Tension
+Seat belt force: Tension
+Barrier force: Tension

Neck load cells:

+X force: Head pushed rearward
+Y force: Head pushed leftward
+Z force: Head pulled upward (tension on neck)
+X moment: Left ear rotating toward left shoulder
+Y moment: Chin rotating toward chest
+Z moment: Chin rotating toward left shoulder

Tibia load cells:

+X force: Ankle forward, knee rearward
+Y force: Ankle rightward, knee leftward
+Z force: Tension
+X moment: Bottom of tibia moving leftward
+Y moment: Bottom of tibia moving rearward

Sign Convention, Cont'd.
SAE J211 MAR95

Lumbar load cells:

+X force:	Chest rearward, pelvis forward
+Y force:	Chest leftward, pelvis rightward
+Z force:	Chest upward, pelvis downward
+X moment:	Left shoulder toward left hip
+Y moment:	Sternum toward front of legs
+Z moment:	Right shoulder forward, left shoulder rearward

Frequency Response Classes
SAE J211 MAR95

<u>Typical Test Measurements</u>	<u>Channel Class</u>
Vehicle Structural Accelerations for use in:	
Total vehicle comparison	60
Collision simulation input	60
Component analysis	600
Integration for velocity or displacement	180
Barrier Face Forces	60
Belt Restraint System Loads	60
Anthropomorphic Test Device	
Head accelerations (linear and angular)	1000
Neck	
Forces	1000
Moments	600
Thorax	
Spine accelerations	180
Rib accelerations	1000
Sternum accelerations	1000
Deflections	600
Lumbar	
Forces	1000
Moments	1000
Pelvis	
Accelerations	1000
Forces	1000
Moments	1000
Femur/Knee/Tibia/Ankle	
Forces	600
Moments	600
Displacements	180
Sled Accelerations	60
Steering Column Loads	600
Head form Accelerations	1000

The direction column on the following sheets describes the transducer output as mounted and wired in the test location. The polarity column indicates whether a polarity change occurred during data acquisition to conform to J211 MAR95. See Report Sign Convention sheet for description of data output as presented in the report: occasionally channels have been adjusted in post-acquisition processing to conform to J211 MAR95.

2/18/2003 3:40:17 PM

Channel Report

Name of Test 030218

System MINIDAU

Name of DAU DAU7

Chan.#	Sensor #	Mnemonic	Description	Dir.	Range	Pol.	Cal.	Group	Mfg.	Model
7001	EVENT	SYNC7	SYNC7		5.12	V	+	10/15/2002	OK	-1
7002	P24596	BCGXG1	MDB CENTER OF GRAVITY	FWD	604.68631	g	+	11/20/2002	OK	-1
7003	P25327	BCGYG1	MDB CENTER OF GRAVITY	RT	599.24392	g	+	2/10/2003	OK	-1
7004	P18281	BCGZG1	MDB CENTER OF GRAVITY	UP	600.47381	g	-	2/10/2003	OK	-1
7005	CW68H	RRRXG1	MDB RIGHT REAR X-AXIS	FWD	604.80060	g	+	10/8/2002	OK	-1
7006	J35574	RRRYG1	MDB RIGHT REAR Y-AXIS	RT	595.32114	g	+	9/10/2002	OK	-1
									TRC	Event
									Endevco	7264C-2K-2-180
									Endevco	7264C-2K-2-180
									Endevco	7264C-2K-2-180
									Endevco	7264-2000TZ
									Endevco	7264-2000TZ

Channel Report

2/18/2003 3:40:17 PM

Name of Test 030218

System MINIDAU

Name of DAU DAUA

Chan.#	Sensor #	Mnemonic	Description	Dir.	Range	Pol.	Cal.	Group	Mfg.	Model
0001	P24511	RURYG2	Right Upper Rib Y	Lft	799.87501	-	11/21/2002	OK	066nr	Endevco
0002	P21652	RURYR2	Right Upper Rib Red Y	Lft	803.23805	-	11/21/2002	OK	066nr	Endevco
0003	P24508	RLRYG2	Right Lower Rib Y	Lft	803.12465	-	11/21/2002	OK	066nr	Endevco
0004	P24627	RLRYR2	Right Lower Rib Red Y	Lft	801.56555	-	11/21/2002	OK	066nr	Endevco
0005	P24564	T12YG2	Lower Spine Y	Lft	401.56862	-	11/21/2002	OK	066nr	Endevco
0006	P21635	T12YR2	Lower Spine Red Y	Lft	401.99742	-	11/21/2002	OK	066nr	Endevco
0007	P24393	PEVYG2	Pelvis Accel Y	Lft	401.26964	-	11/21/2002	OK	066nr	Endevco
0008	P24559	PEVYR2	Pelvis Accel Red Y	Lft	402.26272	-	11/21/2002	OK	066nr	Endevco
0009	P25068	RURYG3	Right Upper Rib Y	Lft	804.05798	-	12/19/2002	OK	065nr	Endevco
0010	P25067	RURYR3	Right Upper Rib Red Y	Lft	808.88509	-	12/19/2002	OK	065nr	Endevco
0011	P25389	RLRYG3	Right Lower Rib Y	Lft	799.52528	-	12/19/2002	OK	065nr	Endevco
0012	P25395	RLRYR3	Right Lower Rib Red Y	Lft	788.95463	-	12/19/2002	OK	065nr	Endevco
0013	P25069	T12YG3	Lower Spine Y	Lft	398.15851	-	12/19/2002	OK	065nr	Endevco
0014	P14826	T12YR3	Lower Spine Red Y	Lft	401.80813	-	12/19/2002	OK	065nr	Endevco
0015	P25397	PEVYG3	Pelvis Accel Y	Lft	400.34404	-	12/19/2002	OK	065nr	Endevco
0016	P25061	PEVYR3	Pelvis Accel Red Y	Lft	401.07161	-	12/19/2002	OK	065nr	Endevco
0017	P24444	LFSXG1	LT SIDE SILL FRNT ST X	FWD	399.27631	+	11/22/2002	OK	-1	Endevco
0018	P24480	LFSYG1	LT SIDE SILL FRNT ST Y	RT	983.02741	-	11/21/2002	OK	-1	Endevco
0019	P14134	LFSZG1	LT SIDE SILL FRNT ST Z	UP	400.40040	-	12/12/2002	OK	-1	Endevco
0020	P24716	LRSXG1	LT SIDE SILL RR ST X	RR	402.21216	-	11/20/2002	OK	-1	Endevco
0021	P24717	LRSYG1	LT SIDE SILL RR ST Y	RT	1004.9264	+	11/20/2002	OK	-1	Endevco
0022	P24592	LRSZG1	LT SIDE SILL RR ST Z	UP	402.16161	-	11/20/2002	OK	-1	Endevco
0023	P24561	RDKXG1	RR FLR PAN ABV AXLE X	FWD	1000.9775	-	11/22/2002	OK	-1	Endevco
0024	P25322	RDKYG1	RR FLR PAN ABV AXLE Y	LT	995.95393	-	11/22/2002	OK	-1	Endevco
0025	P24531	RDKZG1	RR FLR PAN ABV AXLE Z	UP	981.18125	-	11/21/2002	OK	-1	Endevco
0026	P24434	RRSYG1	RT SIDE SILL RR ST Y	LT	1015.8730	-	11/22/2002	OK	-1	Endevco
0027	P23848	RFSYG1	RT SIDE SILL FRNT ST Y	LT	992.42115	-	2/13/2003	OK	-1	Endevco
0028	P24648	RFCYG1	RT FRNT DOOR CTRLN Y	LT	1467.0066	-	11/20/2002	OK	-1	Endevco
0029	P25263	LRTYG1	LT RR OCP COMP Y	RT	1473.8902	+	11/21/2002	OK	-1	Endevco
0030	P25321	RFRYG1	RT FRNT DOOR MIDRR Y	LT	1457.7757	-	1/22/2003	OK	-1	Endevco
0031	J40074	RFRYG1	RT FRNT DOOR UPPER CH Y	LT	1521.0932	-	1/3/2003	OK	-1	Endevco
0032	P25357	RRMYG1	RT RR DOOR MIDREAR Y	LT	1494.4541	-	11/21/2002	OK	-1	Endevco

Channel Report

2/18/2003 3:40:18 PM

Name of Test 030218

System MINIDAU

Name of DAU DAUB

Chan#	Sensor #	Mnemonic	Description	Dir.	Range	Pol.	Cal.	Group	Mfg.	Model
0001	318104	RRUYG1	RT RR DR UPPER CL Y	LT	1508.4111	-	11/5/2002	OK -1	Endevco	7264-2000T
0002	P24422	RLBYG1	RT LOWER B-POST Y	LT	1496.6384	-	11/22/2002	OK -1	Endevco	7264C-2K-2-180
0003	I40415	RUBYG1	RT MID B-POST Y	LT	1545.8470	-	9/18/2002	OK -1	Endevco	7264-2000TZ
0004	P24640	RLAYG1	RT LOWER A-POST Y	RT	1521.8619	+	11/20/2002	OK -1	Endevco	7264C-2K-2-180
0005	P25311	RUAYG1	RT MID A-POST Y	RT	1467.8899	+	1/22/2003	OK -1	Endevco	7264C-2K-2-180
0006	P21662	RFTYG1	RT FRNT ST TRK Y	LT	1469.8705	-	2/13/2003	OK -1	Endevco	7264C-2K-2-180
0007	P25313	RRTYG1	RT RR ST TR Y	RT	1537.3990	+	1/21/2003	OK -1	Endevco	7264C-2K-2-180
0008	P24590	VCGXG1	VEH C/G X	FWD	995.77960	+	11/21/2002	OK -1	Endevco	7264C-2K-2-180
0009	P23929	VCGYG1	VEH C/G Y	RT	990.75041	+	9/4/2002	OK -1	Endevco	7264C-2K-2-180
0010	P25044	VCGZG1	VEH C/G Z	UP	1014.7254	-	12/3/2002	OK -1	Endevco	7264C-2K-2-180

Digital and System Channel Report

2003-02-18 15:40:00

Name of Test	030218	Name of DAU	DAU7	description
enable Channel		MINIDAU		
d				
Yes	7501	DIG7	DAU77501	KM3710 Controller
bit position	bit	short	long	description
MSB = bit 15	1	CAMERA	CAMERA START	
bit 14	1	MDBLI	MDB LEFT SIDE CONTACT	
bit 13	1	MDPRI	MDB RIGHT SIDE CONTACT	
bit 12	0			
bit 11	0			
bit 10	0			
bit 09	0			
bit 08	0			
bit 07	0			
bit 06	0			
bit 05	0			
bit 04	0			
bit 03	0			
bit 02	0			
bit 01	0			
LSB = bit 00	0			

Dummy 065nr Type SID Description Name Model Description Name Manufacturer Sens./mV/V/U Fullscale Caldate Pos Output Flip

HEADXG	Head Accel X		7264-2000TZ	J26885	Endevco	0.02365	g	2000	2/18/03	Rwd	1
HEADYG	Head Accel Y		7264-2000TZ	J26864	Endevco	0.02393	g	2000	2/18/03	Lft	1
HEADZG	Head Accel Z		7264-2000TZ	J27950	Endevco	0.0256	g	2000	2/18/03	Up	1
NECKXF	Neck Force X		1716A	1716A-858-FX	Denton	0.000191628	N	8896.4	1/17/03	Hd Fd,Cst Rt	1
NECKYF	Neck Force Y		1716A	1716A-858-FY	Denton	0.000184704	N	8896.4	1/17/03	Hd L,Cst Rt	0
NECKZF	Neck Force Z		1716A	1716A-858-FZ	Denton	0.000096421	N	13344.6	1/17/03	Hd Up,Cst Dn	0
NECKXM	Neck Moment X		1716A	1716A-858-MX	Denton	0.006005664	N-m	282.5	1/17/03	Rt Ear to Rt Shld	1
NECKYM	Neck Moment Y		1716A	1716A-858-MY	Denton	0.005933097	N-m	282.5	1/17/03	Chn to Strum	0
NECKZM	Neck Moment Z		1716A	1716A-858-MZ	Denton	0.008454159	N-m	282.5	1/17/03	Chn to Lt Shld	0
RURYG	Right Upper Rib Y		7264C-2K-2-18	P25068	Endevco	0.01721	g	2000	12/19/02	Lft	1
RURYR	Right Upper Rib Red Y		7264C-2K-2-18	P25067	Endevco	0.01623	g	2000	12/19/02	Lft	1
RLRYG	Right Lower Rib Y		7264C-2K-2-18	P25389	Endevco	0.01642	g	2000	12/19/02	Lft	1
RLRYR	Right Lower Rib Red Y		7264C-2K-2-18	P25395	Endevco	0.02028	g	2000	12/19/02	Lft	1
T12YR	Lower Spine Red Y		7264C-2K-2-18	P14826	Endevco	0.01991	g	2000	12/19/02	Lft	1
T12YG	Lower Spine Y		7264C-2K-2-18	P25069	Endevco	0.01692	g	2000	12/19/02	Lft	1
PEVYG	Pelvis Accel Y		7264C-2K-2-18	P25397	Endevco	0.01827	g	2000	12/19/02	Lft	1
PEVYR	Pelvis Accel Red Y		7264C-2K-2-18	P25061	Endevco	0.01798	g	2000	12/19/02	Lft	1

! Indicates channel not used or not installed in dummy for this test.

Dummy 066nr Type SID Description NHTSA - 066nr SID-RIGHT IMP. CONFIG. CAL DUE 5-21-03(DKS 2-13-03)J211

Channel	Location	Model	Name	Manufacturer	Sens./mV/V/UL	Fullscale	Caldate	Pos Output	Flip
HEADXG	Head Accel X	7264-2000TZ	J28754	Endevco	0.02822 g	2000	2/18/03	Rwd	1
HEADYG	Head Accel Y	7264-2000TZ	J27345	Endevco	0.02769 g	2000	2/18/03	Lft	1
HEADZG	Head Accel Z	7264-2000TZ	J27116	Endevco	0.02537 g	2000	2/18/03	Up	1
NECKXF	Neck Force X	1716A	1716A-858-FX	Denton	0.000191628 N	8896.4	1/17/03	Hd FU,Cst Rr	1
NECKYF	Neck Force Y	1716A	1716A-858-FY	Denton	0.000184704 N	8896.4	1/17/03	Hd L,Cst Rt	0
NECKZF	Neck Force Z	1716A	1716A-858-FZ	Denton	0.000096421 N	13344.6	1/17/03	Hd Up,Cst Dn	0
NECKXM	Neck Moment X	1716A	1716A-858-MX	Denton	0.006005664 N-m	282.5	1/17/03	Rt Bar to Rt Shld	1
NECKYM	Neck Moment Y	1716A	1716A-858-MY	Denton	0.005933097 N-m	282.5	1/17/03	Chn to Strum	0
NECKZM	Neck Moment Z	1716A	1716A-858-MZ	Denton	0.008454159 N-m	282.5	1/17/03	Chn to L1 Shld	0
RURYG	Right Upper Rib Y	7264C-2K-2-18	P24511	Endevco	0.0173 g	2000	11/21/02	Lft	1
RURYR	Right Upper Rib Red Y	7264C-2K-2-18	P21652	Endevco	0.02198 g	2000	11/21/02	Lft	1
RLRYG	Right Lower Rib Y	7264C-2K-2-18	P24508	Endevco	0.01723 g	2000	11/21/02	Lft	1
RLRYR	Right Lower Rib Red Y	7264C-2K-2-18	P24627	Endevco	0.01825 g	2000	11/21/02	Lft	1
T12YR	Lower Spine Red Y	7264C-2K-2-18	P21635	Endevco	0.01873 g	2000	11/21/02	Lft	1
T12YG	Lower Spine Y	7264C-2K-2-18	P24564	Endevco	0.01875 g	2000	11/21/02	Lft	1
PBVYG	Pelvis Accel Y	7264C-2K-2-18	P24393	Endevco	0.01963 g	2000	11/21/02	Lft	1
PBVYR	Pelvis Accel Red Y	7264C-2K-2-18	P24559	Endevco	0.0172 g	2000	11/21/02	Lft	1

1 Indicates channel not used or not installed in dummy for this test.

SIDE IMPACTOR BARRIER CERTIFICATION

Date: July 11, 2002

To: Transportation Research
Ship & Rec Bldg 50
10820 St. Route 347
East Liberty, OH 43319-0367

PURCHASE ORDER INFORMATION

Customer P.O. Number: 018767
Work Order Number: 13552
Quantity: 05 pieces

CORE INFORMATION

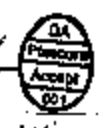
Core Type: PAMG-3/8-1.6-001-P-5052-T
Measured Cell Size: 0.375 inches
Measured Density: 1.6 pcf

Unit Numbers:

- 050C0602 - 01 pc.
- 050A0602 - 01 pc.
- 049A0602 - 01 pc.
- 048C0602 - 01 pc.
- 035C0602 - 01 pc.

This is to certify that the aluminum honeycomb core supplied, under the unit numbers provided, meets the crush requirements of 45 psi +/- 2.5 psi as per DWG# DSL-1285.


Quality Control Representative
Karl D. Zwaanstra



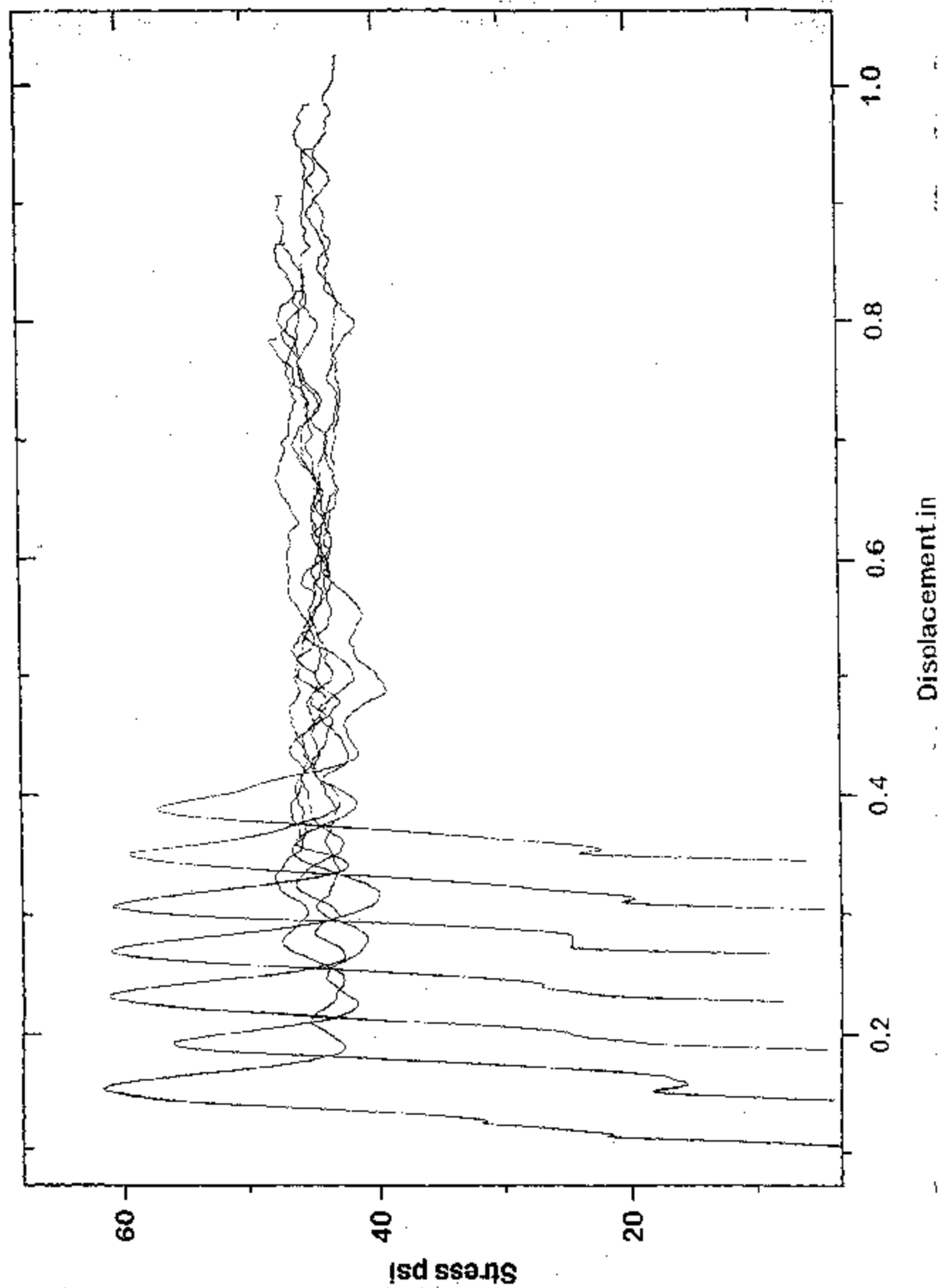


Crush Data
45 psi +/- 2.5 psi per DWG # DSL-1285

Block Number: 049A0602

<u>Specimen Number</u>	<u>Zone 1</u>	<u>Zone 2</u>	<u>Zone 3</u>
1	46.16	46.20	46.90
2	45.19	44.51	45.39
3	45.18	44.59	45.82
4	44.12	45.03	46.00
5	44.61	44.57	45.10
6	43.71	42.95	43.74
7	43.36	43.10	44.13

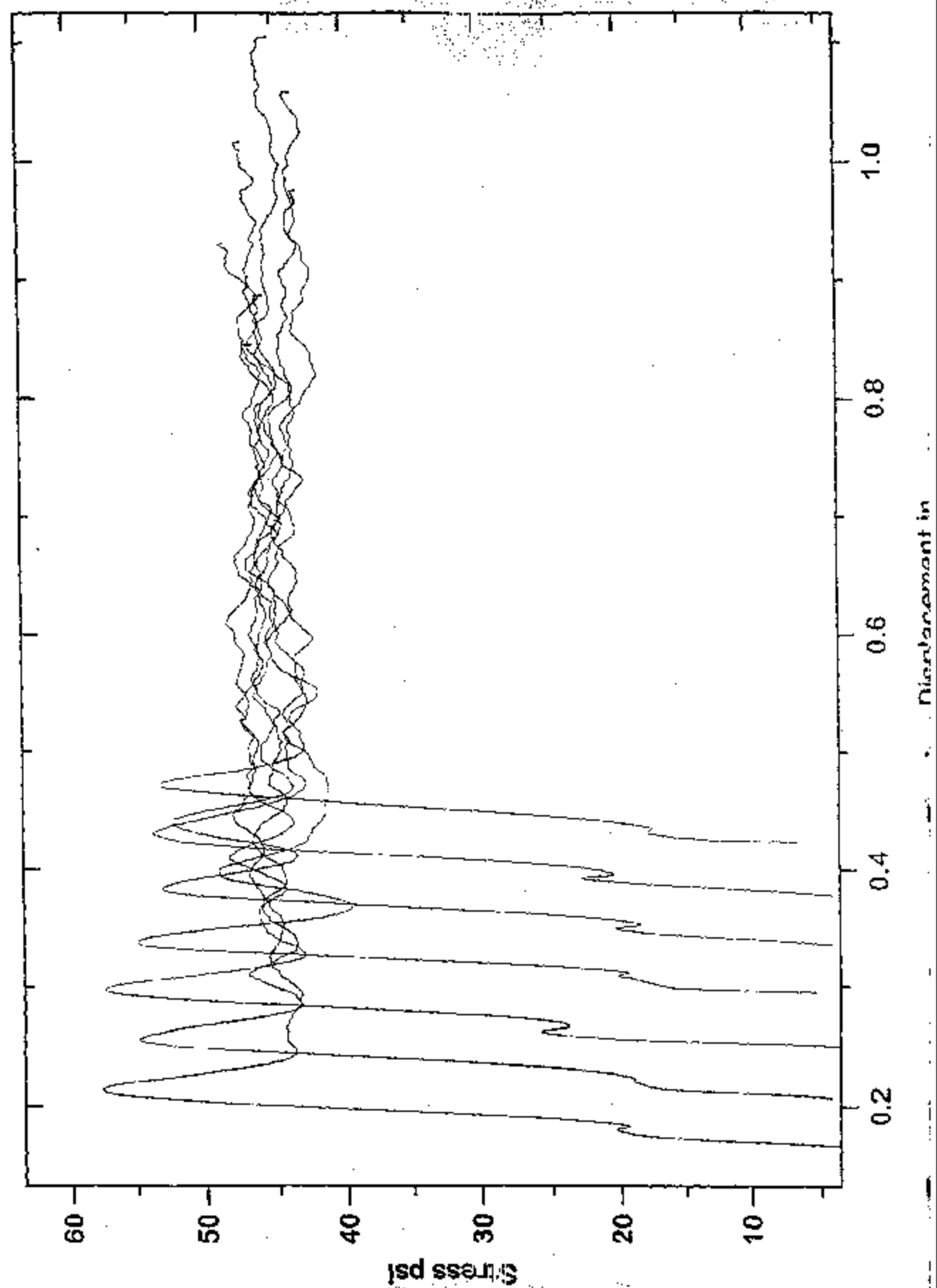
BLOCK # 049A0602 Sample ID: IN224645



Crush Data**45 psi +/- 2.5 psi per DWG # DSL-1285****Block Number: 048C0602**

<u>Specimen Number</u>	<u>Zone 1</u>	<u>Zone 2</u>	<u>Zone 3</u>
1	47.11	47.40	46.45
2	45.53	45.74	45.30
3	46.53	46.08	46.11
4	43.56	44.04	42.94
5	45.83	45.92	46.60
6	45.02	44.18	43.70
7	44.58	45.48	44.82

BLOCK # 048C0602 Sample ID: IN224702





PLASCORE

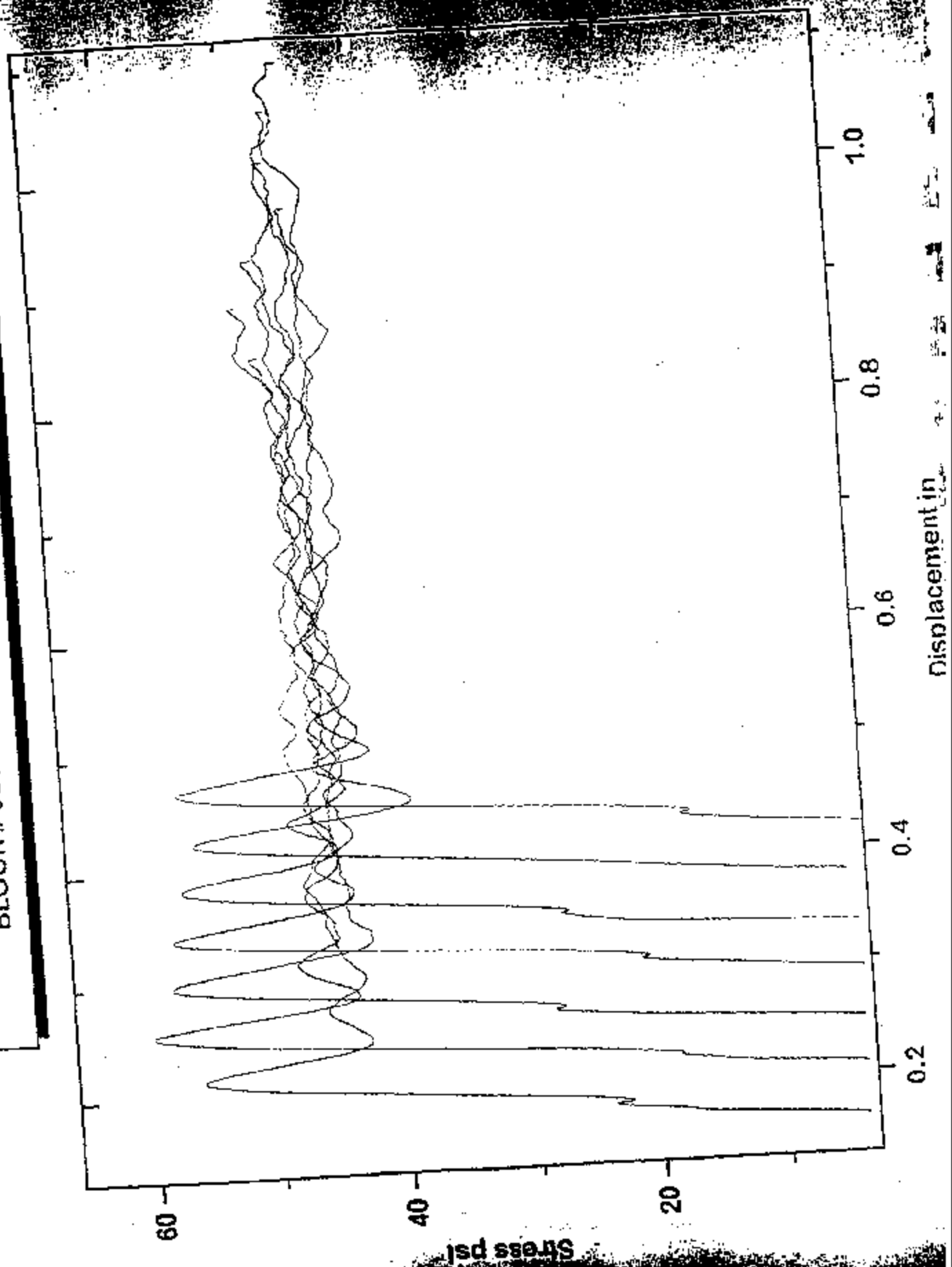
Crush Data

45 psi +/- 2.5 psi per DWG # DSL-1285

Block Number: 050C0602

<u>Specimen Number</u>	<u>Zone 1</u>	<u>Zone 2</u>	<u>Zone 3</u>
1	45.68	45.06	46.48
2	47.32	46.96	47.22
3	45.64	46.03	45.94
4	44.46	44.58	44.57
5	46.31	46.61	47.40
6	43.73	44.01	44.57
7	45.34	45.64	46.59

BLOCK # 050C0602 Sample ID: IN224700





PLAScore

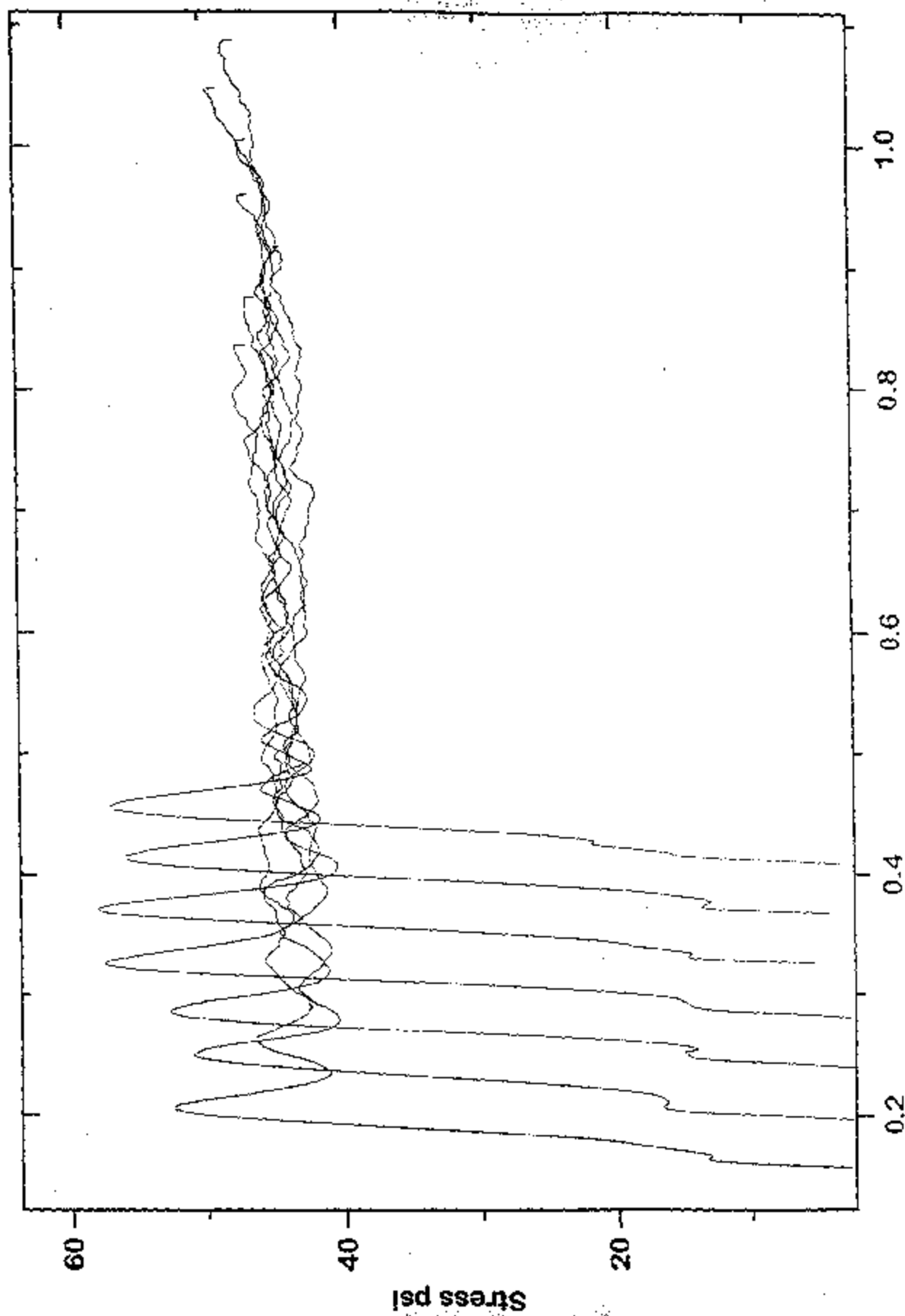
Crush Data

45 psi +/- 2.5 psi per DWG # DSL-1285

Block Number: 050A0602

<u>Specimen Number</u>	<u>Zone 1</u>	<u>Zone 2</u>	<u>Zone 3</u>
1	45.45	45.57	46.30
2	43.96	44.38	44.78
3	43.82	42.82	43.14
4	44.82	45.12	45.41
5	43.48	44.31	45.21
6	44.66	45.38	45.21
7	45.66	45.02	45.87

BLOCK # 050A0602 Sample ID: IN224649





PLASCORE

SIDE IMPACTOR BARRIER CERTIFICATION

Date: July 11, 2002

To: Transportation Research
Ship & Rec Bldg 50
10820 St. Route 347
East Liberty, OH 43319-0367

PURCHASE ORDER INFORMATION

Customer P.O. Number: 018767
Work Order Number: 13552
Quantity: 05 pieces

CORE INFORMATION

Core Type: PCGA-1/4-5.2-P-3003-T
Measured Cell Size: 0.250 inches
Measured Density: 5.2 pcf

Unit Numbers: 035A0602 - 03 pcs.
058B0502 - 02 pcs.

This is to certify that the aluminum honeycomb core supplied, under the unit numbers provided, meets the crush requirements of 232 - 250 psi as per DWG# DSL-1285.


Quality Control Representative
Karl D. Zwaanstra

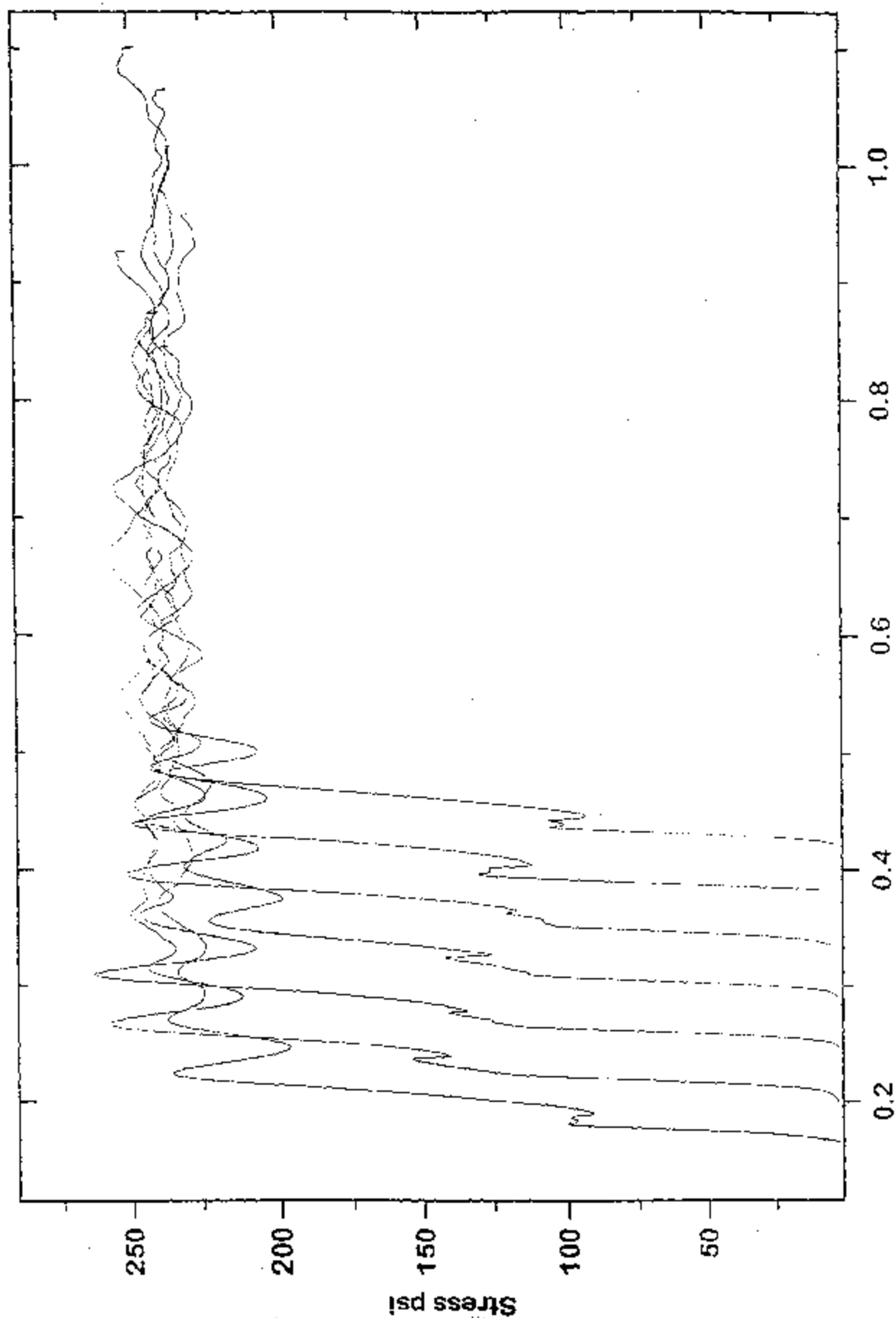


Crush Data
232 - 250 psi per DWG # DSL-1285

Block Number: 058B0502

<u>Specimen Number</u>	<u>Zone 1</u>	<u>Zone 2</u>	<u>Zone 3</u>
1	234.88	233.03	238.26
2	245.89	246.74	234.83
3	244.45	242.80	244.84
4	233.66	232.58	232.66
5	241.14	241.30	238.97
6	241.47	241.27	241.95
7	241.53	238.17	235.74

BLOCK # 058B0502 Sample ID: IN224430





PLASCORE

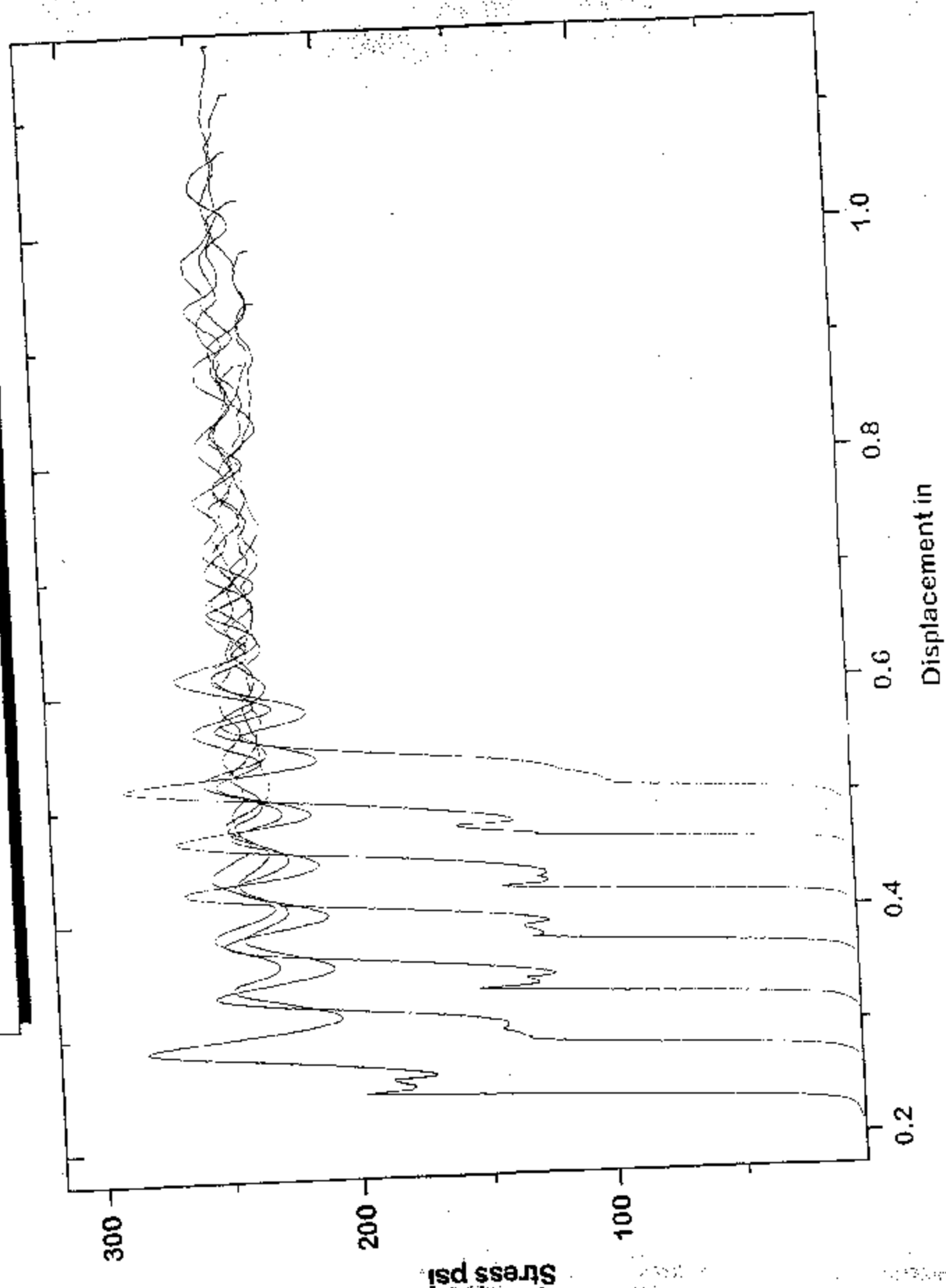
Crush Data

232 - 250 psi per DWG # DSL-1285

Block Number: 035A0602

<u>Specimen Number</u>	<u>Zone 1</u>	<u>Zone 2</u>	<u>Zone 3</u>
1	244.40	243.67	243.31
2	233.87	235.01	232.86
3	236.81	234.93	233.33
4	239.66	238.82	236.92
5	244.52	242.91	243.54
6	246.13	246.27	243.76
7	244.63	245.45	243.59

BLOCK # 035A0602 Samples: IN224610



Stress psi

Displacement in

030218

D-23

Crush Data
45 psi +/- 2.5 psi per DWG # DSL-1285

Block Number: 035C0602

<u>Specimen Number</u>	<u>Zone 1</u>	<u>Zone 2</u>	<u>Zone 3</u>
1	46.57	46.17	46.74
2	45.67	45.64	47.19
3	45.73	45.27	45.40
4	44.47	44.96	45.89
5	46.95	47.06	46.69
6	45.56	47.05	47.20
7	45.38	45.66	45.78

BLOCK # 035C0602 Sample ID: IN224647

